USAID
FROM THE AMERICAN PEOPLE

QUARTERLY REPORT

CLIMATE CHANGE RESILIENT DEVELOPMENT

QUARTERLY IMPLEMENTATION REPORT

JANUARY 2014 – MARCH 2014

April 18, 2014

This report was produced for review by the United States Agency for International Development (USAID). It was prepared by Engility-IRG.

This report has been prepared for the United States Agency for International Development (USAID), under the Climate Change Resilient Development Task Order No. AID-OAA-TO-11-00040, under The Integrated Water and Coastal Resources Management Indefinite Quantity Contract (WATER IQC II) Contract No. AID-EPP-I-00-04-00024.

Engility-IRG Contact:

Glen Anderson, Chief of Party (Glen.Anderson@engilitycorp.com)

Engility//IRG
1211 Connecticut Ave. NW
Suite 700
Washington, DC 20036

Cover Photo: Peru. Daniel Byers, Skyship Films

CLIMATE CHANGE RESILIENT DEVELOPMENT

QUARTERLY IMPLEMENTATION REPORT

JANUARY 2014 – MARCH 2014

IQC CONTRACT NO. AID-EPP-I-00-04-00024

TASK ORDER NO. AID-OAA-TO-11-00040

APRIL 18, 2014

TABLE OF CONTENTS

ACRONYMS

ADN	Santo Domingo National District (Ayuntamiento del Distrito Nacional)
AgMIP	Agricultural Model Intercomparison and Improvement Project
AGU	American Geophysical Union
ALM	Adaptation Learning Mechanism (website)
AP	Adaptation Partnership
BZC	Buffer Zone Council
CAASD	Corporación del Acueducto y Alcantarillado de Santo Domingo
CATIE	Centro Agronómico Tropical de Investigación y Enseñanza
CBGLORRP	Community-Based Glacial Lake Outburst Risk Reduction Project
CCAFS	CGIAR Research Program on Climate Change, Agriculture and Food Security
CCAP	Coastal Cities Adaptation Project
CCRD	Climate Change Resilient Development Task Order
CCSR	Columbia's Center for Climate Systems Research
CDWG	Communications Dissemination Working Group
CEFEDH	Centers for Family Development of Honduras
CENEPRED	Peru's National Center for the Assessment, Prevention and Reduction of Risk of Disasters
CGIAR	Consultative Group on International Agricultural Research
CIMH	Caribbean Institute of Meteorology and Hydrology
CIMPACT-DST™	Climate Impacts Decision Support Tool
CoP	Community of Practice
COP	UNFCCC Conference of the Parties
CPT	Climate Predictability Tool
CRD	Climate Resilient Development
CRIS	Climate Resilient Infrastructure Services Program
CRM	Climate Risk Management
CRW	Climate Resilient Wheat
CSP	Climate Services Partnership
DBMS	Database Management System
DDC	District Development Committee

DEM	Digital elevation model
DHM	Department of Hydrology and Meteorology (Nepal)
DL	Data Library
DNPWC	Department of National Parks and Wildlife Conservation (Nepal)
ECOWAS	Economic Community of West African States
Engility-IRG	International Resources Group/Engility
EWS	Early Warning System
FCMC	Forest Carbon, Markets, and Communities Task Order
FES	Foundation for Ecological Security
FFS	Farmer Field Schools
FONIPREL	Public Fund for Local and Regional Investments (Peru)
FTI	Fast-Track Implementation
FY	Fiscal Year
GCC	Global Climate Change
GCMs	Global climate models
GEF	Global Environment Facility
GFCS	Global Framework for Climate Services
GIS	Geographical Information System
GLOF	Glacial Lake Outburst Flood
GPR	Ground penetrating radar studies
GTPA	Groupe de Travail Pluridisciplinaire d'Assistance Agrométéorologique
GUC	Grants Under Contract
HiMAP	High Mountain Adaptation Partnership
HPI	Hue Planning Institute
ICC	Institute for Climate Change research (Guatemala)
ICCS2	(Second) International Conference on Climate Services
ICF	ICF Incorporated, LLC
ICIMOD	International Centre for Integrated Mountain Development
ICT	Information and Communication Technology
IDB	Inter-American Development Bank
IDDI	Instituto Dominicano de Desarrollo Integral
IEC	Information, Education, and Communication
IISD	International Institute for Sustainable Development
IMHEN	Institute for Meteorology, Hydrology, and Environment (Vietnam)
INGC	National Institute of Disaster Management (Mozambique)

INTEC	Instituto Tecnológico de Santo Domingo
IPCC	Intergovernmental Panel on Climate Change
IQC	Indefinite Quantities Contract
IRAP	International Research Institute for Climate and Society
IRD	Research Institute for Development (Peru)
IRI	International Research Institute for Climate and Society
IT	Information technology
KACC	Khumbu Alpine Conservation Council
KM	Knowledge management
LAPA	Local Adaptation Plan for Action
M&E	Monitoring and evaluation
MINAM	Ministry of Environment
MOU	Memorandum of Understanding
MPA	Marine Protected Area
NAP	National Adaptation Plan
NCAR	National Center for Atmospheric Research
NGO	Non-governmental organization
NOAA	National Oceanic and Atmospheric Administration
NTNC	National Trust for Nature Conservation
ONAMET	National Office on Meteorology
PEAR	Post Event Assessment of Resilience
PMP	Performance Management Plan
POC	point of contact
PROINVERSION	Peru Agency for the Promotion of Private Investment
pSIMS	parallel System for Integrating Impacts Models and Sectors
Q2	Quarter Two
QA/QC	Quality Assurance/Quality Control
RADA	Jamaican Rural Agricultural Development Agency
SAC	Senior Advisory Committee
SLR	Sea level rise
SMNH	Servicio Meteorológico Nacional de Honduras
SNP	Sagarmatha National Park
SOW	Scope of work
SUNY	State University of New York
TA	Technical assistance

TDY	Temporary Duty
TERI	The Energy and Resources Institute
TMA	Tanzania Meteorology Agency
TMI	The Mountain Institute
TOT	Training-of-Trainers
UA	University of Arizona
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UPCH	Universidad Peruana Cayetano Heredia
USAID	United States Agency for International Development
USG	U.S. Government
UT	University of Texas at Austin
V&A	Vulnerability and Adaptation
VDC	Village Development Committee
VIUP	Vietnam Institute for Urban-Rural Planning
Water II IQC	Integrated Water and Coastal Resources Management Indefinite Quantities Contract
WG	Working Group
WIO	Western Indian Ocean
WIOMSA	Western Indian Ocean Marine Science Association
WMO	World Meteorological Organization
YKK	Yayasan Kota Kita
YMCI	Yayasan Mercy Corps Indonesia

A. INTRODUCTION

This report summarizes the activities undertaken by the consortium led by International Resources Group (Engility-IRG) during the quarterly reporting period of January 2014 – March 2014, under the Integrated Water and Coastal Resources Management Indefinite Quantities Contract (Water II IQC) Climate Change Resilient Development (CCRD) Task Order. The report covers project management and implementation activities undertaken and/or completed during the reporting period. The CCRD annual Performance Management Plan (PMP) report, current CCRD organizational chart, and annual financial report are provided as Annexes. The remaining sections are divided into four sections: 1) Project Management; 2) Objective One activities; 3) Objective Two activities; and 4) Objective Three activities.

The report includes updates on activities and tasks described in the CCRD Year Three Work Plan:

Project Management, Planning, and Evaluation:

Task PM-1 Develop Year Two Work Plan

Task PM-4 Conduct Advisory Committee Meetings

Task PM-6 Develop and Disseminate CCRD Knowledge Management (KM) Products

Task PM-7 Implement Grants Under Contract Program

Objective 1: Support for USAID Missions and Bureaus

Task 1.1.1 Revise Vulnerability and Adaptation Manual

Task 1.1.2 Develop Climate Briefs and Annexes

Task 1.1.5 New Directions in Pilots and Research

Task 1.2.3 Support the United Nations Development Programme (UNDP) Adaptation Learning Mechanism Website

Task 1.3.3 Support Development of USAID's Federal Agency Climate Change Adaptation Plan

Task 1.3.4 Provide support for USAID Integration Pilot in Kazakhstan

Objective 2: Coordinate with Other U.S. Government (USG) Agencies to Support Mainstreaming

Task 2.1.1 Conduct Adaptation Partnership Workshops

Objective 3: Identify and Respond to Emerging Issues and Fill Gaps

Task 3.1.1 Support Preparation of National Adaptation Plans (NAPs)

Task 3.1.2 Develop and Pilot Fast Track Implementation Concept

Task 3.2.2 Develop the High Mountain Adaptation Partnership (HiMAP)'s CoP

Task 3.2.4 Implement CoP Pilot Projects and Research

Task 3.3.2 Coordinate Activities of the Climate Services Partnership

Task 3.3.3 Compile and Disseminate Current Climate Services Knowledge

Task 3.3.4 Conduct Case Studies and Assessments of Climate Services

Task 3.3.5 Economic Valuation of Climate Services

Task 3.3.7 National/Regional-level Climate Services Development

Task 3.3.8 Develop Climate Services Products for the Agriculture Sector

Task 3.10 IRAP

Task 3.4.2 CRIS Support to pilot Cities to Accelerate Climate Risk Management

Task 3.4.4 Global City-to-City Information Exchange

Task 3.4.6 Evaluate CTIS Activities and Recommend Next Steps

Task 3.4.7 Cascadia Vietnam Pilot

This report and all reports and presentations drafted and/or finalized during Fiscal Year (FY) 2014-Quarter 2 (Q2) are provided to USAID through the internal site: www.ccrdproject.com. In addition, performance indicators and achievements for the reporting period are provided in Annex I, an organizational chart is provided in Annex II, and a small grants summary table is provided in Annex III.

B. PROJECT MANAGEMENT, PLANNING, AND EVALUATION

Project management activities during FY 2014-Q2 focused on developing CCRD communications materials and issuing and monitoring small grants awards.

TASK PM-1 DEVELOP YEAR THREE WORK PLAN

The Year Three Work Plan covers the period of August 2013 – July 2014 and is currently being implemented.

TASK PM-4 CONDUCT ADVISORY COMMITTEE MEETINGS

The Senior Advisory Committee (SAC) is scheduled for May 8 and 9, 2014. The meeting will begin with a review of Year Three progress of major CCRD programs, and also an overview of anticipated deliverables to be completed by the end of Year Three. From this discussion, the SAC will move to focus on priorities for the Year Four work plan. On the second day, the SAC will discuss communications strategies to roll-out completed CCRD deliverables, lessons learned, and how to tell the CCRD story for a variety of audiences and media.

TASK PM-6 DEVELOP AND DISSEMINATE CCRD KNOWLEDGE MANAGEMENT PRODUCTS

The CCRD Communications Manager Michael Cote hired a communications consultant Jamie Carson of C.C. Global to assist with daily communications production tasks including editing, formatting, and strategic planning activities. Mrs. Carson designed and wrote a communications strategy for the remainder of Year 3, designed a template for a possible 2-day CCRD Symposium, and coordinated with the communications team and technical leads from the CCRD partners. Discussions to further develop the CCRD Symposium content, theme(s), audiences, marketing approaches, costs, speakers, possible venues, and event timing will be held during the May SAC meeting. She also participated in several CCRD conference calls and attended and contributed to CCRD's weekly communications meetings.

The communications team provided inputs to streamline navigation and content management of the CCRDProject.com website. During the quarter, the communications team re-formatted several technical and two annual reports into the CCRD "tab" template. Several CCRD deliverables were line-edited, formatted, designed following the USAID branding requirements. Most notably, the Glacial Lake Handbook was finalized and made 508 compliant. A template was developed for a two day conference tentatively to be held in the first quarter of Year Four.

A CCRD Library was designed and developed for the CCRDproject.com website. The library will serve as a repository and distribution point (e.g., for permanent URLs) for all higher-level deliverables that serve a variety of stakeholders, namely USAID staff and climate adaptation practitioners. The CCRDProject.com website was also updated for improved navigation and new content control.

The communications team participated in weekly communications meetings held Tuesday mornings at 10 AM EST with Mr. Cote leading the meetings and individual team members providing updates on

assignments. The meetings are primarily strategy and editorial review sessions focused on fact sheets processes and select technical report management and distribution.

The majority of the fact sheets were completed for the CCRD project, and the communications team's focus has shifted to tactical dissemination of technical reports and other deliverables.

For the National Adaptation Working Group, Mr. Cote and Brad Hurley (ICFI) developed a 20-page booklet showcasing USAID's National Adaptation Plan (NAP). The booklet, in draft form, was reviewed by Jonathan Cook (USAID) and describes USAID's NAPs workshop processes utilized to mainstream climate into national level development planning in Jamaica, Tanzania, and West Africa. The booklet aims to assist USAID, and to a greater extent the Dept. of State, in influencing the nascent NAPs "development first" approach by the UNFCCC. The document will support a pending official memo on NAPs to be delivered by the Dept. of State (in collaboration with USAID) to focal points at the UNFCCC. Twenty draft-copies of the booklet were delivered to relevant audiences by Joel Smith (Stratus) at meetings in Tanzania during this quarter. The document will be revised to add a technical introduction, updated graphics, incorporate new feedback from USAID/GCC staff, and formatted into the CCRD "tab" style. Completion is expected by end of the next quarter and dissemination strategy targets donor audiences.

After several months of delays, edits, and revisions, the Glacial Lakes Handbook: Reducing Risk from Dangerous Glacial Lakes in the Cordillera Blanca, Peru was delivered to USAID in February 2014. The handbook was distributed across several mountain climbing, mountain science, and climate change listservs. Several announcements by CCRD partner TMI were made to the HiMAP CoP, including a special webpage, newsletter, email, and long blog post. The handbook was also uploaded to USAID's DEC website, which provides a permanent, searchable, official USG URL for citations by staffers of USAID and Dept. State and other researchers. The DEC is a widely utilized resource database by private sector contracts and by USAID employees and Missions. The document conforms to 508 compliance accessibility standards. A summary version will be developed for general audiences by TMI in the next quarter.

The following table describes the current status of higher-level CCRD deliverables. Several have been reformatted into the CCRD "tab" template for consistency and branding purposes. The communications team performed light edits in collaboration with respective technical leads as needed. The documents were uploaded to the CCRD library (www.CCRDProject.com/ccrd-library/technical-reports). Several of the documents were distributed across a variety of climate and stakeholder networks (see table below).

Type	Title	Q2 Status
Technical Report	***Addressing Climate Change Impacts on Infrastructure (CRIS)***	Technical report distributed electronically and print by CRIS PMs. 150 print versions delivered to USAID (Ken Baum).
Technical Report	***An Assessment of Water Security, Development, and Climate Change in Iloilo, Philippines, and the Tigum-Aganan Watershed (Stratus et al)***	Print versions distributed.
Technical Report	***CRD: A Framework for Understanding and Addressing Climate Change (USAID and CCRD***	Webinar (rescheduled from March to April) to publicize the Framework. Several hundred were printed for USAID/GCC staff and public

	PMs)	distribution. A permanent URL on USAID's DEC was established. Distributed across several climate listservs and is also uploaded on CAKEX's website.
Technical Report	***Climate Vulnerabilities and Development in Burkina Faso and Niger (CCRD PMs et al)***	Reformatted and uploaded to CCRD Library.
Technical Report	***Gender and Climate Change in Agrarian Settings (USC)***	Reformatted, light edits, and replacement of front cover image. The document will be distributed by a strategic mini-team, likely Kaitlin Buttler-Ricketts, Ed Carr, and Jamie Carson.
Technical Report	***Glacial Lake Handbook: Reducing Risk from Dangerous Glacial Lakes in the Cordillera Blanca, Peru (HiMAP et al)***	Widely distributed. See above.
Workshop Summary	***Climate Change-towards the Development of a Policy Framework for Jamaica (Engility)***	Reformatted, light edits, new cover image, and included in CCRD library. A summary version is included in the NAPs compendium document, which was distributed in West Africa.
Workshop Summary	***Kazakhstan Stakeholder Consultations Workshop Report (Engility)***	Reformatted and included in CCRD library.
Workshop Summary	***West Africa Coastal Climate Change National Adaptation Planning Workshop (Engility)***	Reformatted, light edits, new cover image, and included in CCRD library. A summary version is included in the NAPs compendium document, which was distributed in West Africa.
Factsheets	***AP, Calling Card, CSP, Climber Scientist, HiMAP, Jamaica, NAP, Adaptation***	Widely distributed in print and online (ongoing). Three are pending reviews (CRIS, Central America, Vietnam). A few hundred were printed and distributed by USAID staff.
Annual Reports	***CCRD FY12 and FY13 Technical (non-financial) Annual Reports***	Reformatted and new cover images. Uploaded to CCRD Library but not distributed.

TASK PM-7 IMPLEMENT GRANTS UNDER CONTRACT PROGRAM

Climber-Scientist Small Grants

Adam French (University of California, Santa Cruz): During the second quarter of 2014, Adam French undertook preparations for educational and environmental monitoring activities in the Parón watershed with Peruvian and international partners (including fellow Climber-Scientist grantee Laura Read and Peruvian engineer César Portocarrero). In late March, Adam traveled to Peru to coordinate the final planning for the Santa River field excursion and related educational workshops with residents of the Parón watershed and Peruvian partners. The excursion and workshops will be conducted in the second quarter of 2014 and are designed to strengthen local capacity for adaptive and integrated management of water resources in the Parón watershed through knowledge building and sharing and institutional coordination and development.

ATREE: ATREE hosted a general stakeholder meeting in Darjeeling from February 25-26 with three keynote speaker presentations, group discussions, and writing exercises. At the workshop, the East Himalaya Climate Awareness Forum was established, pulling together stakeholders from civil society, government, and industry to share information and build awareness of developmental implications of climate change within the monsoon-affected Eastern Himalaya. ATREE plans to host this group again and spearhead several educational activities for NGOs and government agencies.

ATREE submitted proposals to USAID-India, The National Science Foundation, NASA, and the University of Massachusetts for continued funding and new opportunities to leverage the work conducted under the CCRD grant.

Laura Read (Tufts University): Laura continued preparations for the summer pilot implementation including the creation of Crowd Hydrology SMS-mobile platform to test in the Cruz de Mayo community below Laguna Paron in May and July 2014, organizing conferences between the local mayor, community president, Cruz de Mayo water committee leader, and local NGO partners, and purchasing/installation of project instruments.

The "Mobile Apps and Water Stats" project was also selected to be showcased at the Clinton Global Initiative meeting – with over 12,000 attendees – from March 21-23. Laura's team was one of 20 chosen to be displayed. Funding for the project is expected as a result of participation.

The Research Foundation for the State University of New York (SUNY) (Mongolia-Altai): Between January and March (2014), the project team focused on development of the species distribution models linking wildlife (snow leopard and argali) as well as livestock to current environmental conditions. These models will enable CCRD to project likely future distributions of wildlife and livestock given predicted change in rangeland quality due to climate. Outputs from our models will be projections of which areas of the landscape are likely to remain suitable for wildlife and livestock grazing and which will not be. These maps will be useful for identifying the extent to which protected areas will be sufficient for protecting wildlife and the extent to which herders will need to shift livestock grazing areas. Together these outputs will outline the geographical considerations for climate change adaptation strategies in western Mongolia for sustaining both herder livelihoods as well as populations of endangered wildlife. Additionally, the team is completing a historical analysis of what changes have occurred in grassland conditions over the last 12 years and drafting a wildlife viewing-based ecotourism guidance draft document (now complete and awaiting final revisions).

Raúl Loayza-Muro (Universidad Peruana Cayetano Heredia (UPCH), Lima, Peru): On February 15, Raúl presented the final results of the grant in a workshop organized by The Universidad Peruana Cayetano Heredia, The Mountain Institute (TMI), and the Ministry of the Environment. The presentation included an explanation on the use of a biotic index based macroinvertebrate to evaluate

water quality in high altitude Andean streams in addition to a discussion about strategies to adapt to climate change and the potential use of wetland ecosystems to remediate water courses impacted by metals and acid waters. Raúl has also been writing the grant final report which will be included as part of the Technical Notes on Climate Change published by the Ministry of the Environment.

Central America Small Grants

CATIE (Centro Agronómico Tropical de Investigación y Enseñanza) (Costa Rica): In February, we held two national workshops during which we presented the results of the systematization and accompanying studies. Twenty-seven people attended in Nicaragua and 26 in Honduras. More important than the number of people that attended was the interest that was shown by the national cattle farmer's associations in taking up the work and incorporating the technical documents in their extension work. Most of the time, however, was spent preparing the technical notes (nine notes on six topics) and the manual for publication, editing the studies on impacts of climate change on nine species, and finalizing the working document on potential indicators for monitoring changes on a landscape level. In addition, the notes and manual have been translated into English for further dissemination beyond the Central American region.

Zamorano Pan-American Agricultural School (Honduras): During this quarter Zamorano prepared for project close-out in community sites in Nicaragua and El Salvador. Technicians will continue to supervise farms and, when necessary, provide technical support on adaptation practices. Farmer Field Schools (FFS) continue; an FFS community event took place in Nicaragua to show different stakeholders the demonstration sites. A project close-out event was held in El Salvador with NGOs, government institutions, press, local authorities, and farmer representatives. Case studies were completed as well as a radio program for training farmers on adaptation to climate change and a manual for the Learning-by-Doing module at Zamorano. Specifically, at each site:

In Honduras: In Santa Inés microwatershed, five training events took place and a new FFS is on its way. Follow-up activities continue in the El Guayabo community. In Centers for Family Development of Honduras (CEFEDH) (Jacaleapa), students continued to receive training on climate change.

In El Salvador: Training activities continued during January and part of February. During project closure, those families that were committed to the process were provided with improved stoves, which are now installed and working properly.

In Nicaragua: Participating families received micro-irrigation systems and, for the first time, were able to produce horticulture crops for their consumption. A water system was completed (well and pump) and is now serving as a source of water for drinking and irrigation purposes in the community.

Climate Resilient Infrastructure Services (CRIS) small grants

The Energy and Resources Institute (TERI)

During the last quarter, TERI completed a sea level rise analysis for the A1B scenario of Intergovernmental Panel on Climate Change (IPCC) AR4, which is a business-as-usual scenario that has been extensively used in many modeling studies. To minimize the uncertainty in model projections and to capture the model spread, TERI used six IPCC models, post processed the data, and analyzed the sea level anomalies using the ensemble for the two coast lines. This method of using more than one model is called a multi-model ensemble approach, which is a proven technique to characterize uncertainty in model data.

Ongoing work includes the preparation of a draft inventory on infrastructure assets in the project cities to identify critical infrastructure assets that would be critical in the case of climate impacts and sea level rise in the cities. The inventory will also inform the city of the type of data it needs to keep to enable

climate resilient planning in the city. The inventory is being translated into a database management system (DBMS) that will be handed over to the city once complete and validated.

Furthermore, a review of regulations, policies, rules, and guidelines for planning of infrastructure and services in coastal cities in India and the project cities in particular is being conducted to identify minimum benchmarks in planning and development of infrastructure in coastal cities.

Yayasan Kota Kita (YKK)

Four trips have been made to the city of Manado to seek support from the city authorities, gather relevant data from the field, and in doing so, understand how the city's infrastructure systems are threatened by climate hazards.

The YKK team has analyzed the data and is finalizing the Manado Climate Vulnerability Assessment. All the relevant data collected in Manado has been documented, geo-referenced, and shared with the CRIS team. In the upcoming quarter the YKK team will complete the first draft of the Manado Climate Change Vulnerability Assessment and prepare a workshop session to share the conclusions of the Vulnerability Assessment and facilitate a discussion about recommendations with the relevant city agencies in early April. Following the workshop, training tools will be prepared and workshops will be conducted in order to address the concerns and recommendations that arise, and build capacity to implement adaptation policies to climate change hazards. Spatial data will be transferred to Geographical Information System (GIS) files and YKK will train city authorities how to use them.

Instituto Dominicano de Desarrollo Integral (IDDI)

Upon grant initiation, IDDI presented the objectives and scope of the project to the National District Municipality (ADN) of Santo Domingo, Dominican Republic, in a meeting held on February 25, 2014, with the presence of the Secretary General, and other officials from ADN. This meeting was successful in garnering the formal approval from ADN and consent for the activities to be undertaken in the project.

On March 21, 2014, a draft methodology for the ADN needs assessment was prepared and presented to the Departmental Directors ADN project team. In addition, a tool for gathering information was prepared and meetings with key stakeholders were coordinated according to a scheduled program.

Currently, IDDI is working on the survey and analysis of information for the final draft of the needs assessment of and the collection of data/GIS analysis information and field work for an inventory of drinking water infrastructure in the North Zone of the National District.

Academic small grants

University of Colorado: Activities this quarter focused on the planning and development of implementation concepts for the quantitative survey protocol. The team has defined two distinct paths that can be followed to implement the tool. The first option is to create an online front end that allows remote supply of project information and then centralized analysis. The second option is to create an IPSS light version that provides basic functionality without the need for centralized analysis. The team also focused on bringing the technical contacts for the project up to speed on these options

During the next quarter, the team plans to focus on three items: holding an initial conference call with the potential users to review options and determine the best implementation option; developing the preliminary implementation to demonstrate the capabilities of the system at a high level that will focus on examining the interface options to determine the requirements for input and output; putting in place a representative group of end users that can serve as the expert panel.

Western Kentucky University: The major effort during the second quarter of 2014 was preparing for the field campaigns. In Peru, a lead ethnographer and several translators/interviewers were identified to

be hired (as soon as funding is available). Contracts for travel logistics and fencing installation were developed (to be paid once funds were available). Research permits in Huascaran National Park were solicited and the overall program effort was approved by the Park. Workshop locations have been identified and the overall programs developed. In short, all preparatory logistics have been completed and there is now have a large and skilled project team ready to move forward. Tasks for the next quarter include in-depth interviews with local stakeholders in several Peruvian villages; workshop invitations and program development; identification of ecological and social vulnerability thresholds; initial student training in data collection and outreach; collaboration with Park and agency personnel, on regulation development; and a water quality monitoring program developed with local stakeholders

University of Colorado, Boulder: The team is continuing analysis of focus group data, as well as data from structured and non-structured observation collected during October – December 2014. To assist with in-depth analysis, focus group recordings are being transcribed in by a field-based research assistant in Tanzania. Data analysis has begun from local-scale observation (conducted during four weeks spent in two villages, one each in Monduli and Longido Districts) and from national-scale observation (conducted during several multi-day adaptation planning meetings and participatory mapping exercises involving district government officials and representatives from national offices, agencies, and ministries, local, national, and international NGOs, as well as at an international climate conference attended by Tanzanian government officials, civil servants, scientists, NGOs, and a range of other stakeholders).

Red Cross/Red Crescent Climate Centre: In January, four researchers from three institutions conducted fieldwork in and around Kasaya, Zambia. Of the four who went, one researcher remains in the field collecting data via interviews and direct observation. The research focus is on hazard vulnerability in specific communities and possible modes of disaster risk reduction and climate change adaptation. The geographic focus of this research is the Zambezi River Basin and feeding tributaries. The data collection is ongoing and the analysis is in its nascent stages. Key themes have emerged and are being field-tested and contrasted with a desk study. The desk study included analysis of relevant ethnographies as well as peer-reviewed and grey literature.

In addition to the research, the team also conducted two workshops on climate adaptation, disaster risk reduction, and decision-making processes. A range of participants attended the workshop, including representatives from the Zambian government as well as international and local NGOs.

The activities in the next quarter will include collecting additional data in the field, conducting data analysis, drafting and field testing our findings, and finally presenting the findings of the research at national workshop in Lusaka.

University of Michigan: To date, the University of Michigan research team completed a trip to Anand, India to set up the CCRD research project in collaboration with the NGO partner the Foundation for Ecological Security (FES). The project has finalized the research design and survey sampling procedures, as well as completed the English versions of the data collection instruments for the research effort; these include a household level survey and a village survey. As this will be an electronic data collection, the team has also programmed the household and village surveys into Open Data Kit, as well as other monitoring and evaluation (M&E) modules that FES will use during project implementation. The Michigan team has also received the list of villages (habitations) for the study and randomized this list into a treatment and control group. Finally, with the help of FES, the Michigan team has collected census and biophysical secondary data collection for 50 villages in the study area.

The next major steps of the project include translation of the survey instruments into Hindi and Telugu, training the survey enumerators, census and biophysical data collection in 50 villages, and rollout of the baseline survey data collection. The baseline data collection will take place next quarter.

Solicitations and New Grant Activity

Scaling Up Climate Services for Farmers in Africa and South Asia: There is still a delay in awarding the climate services grants. CCRD is waiting to receive the remaining project funds from the U.S. Government (USG). Once it has received the additional funding, CCRD will move forward with grant agreements for the five recommended grants for funding. These climate services grants were developed from the CCAFS/ World Meteorological Organization (WMO)/USAID/Climate Services Partnership (CSP) workshop held in December 2012. Workshops were convened in June and July 2013 to assist potential applicants develop their proposals. IRI worked with CCAFS (CGIAR Research Program on Climate Change, Agriculture and Food Security) and other partners to include a session on climate services for smallholder farmers at the third International Conference on Climate Services (ICCS3).

A second round of CRIS grants will focus on the following areas:

- Test CCRD's Fast-Track Implementation (FTI) approach for adaptation at the city or sub-city level.
- Demonstrate innovative partnerships for securing sustainable financing for adaptation from public and private sources.

Pending approval from USAID, the solicitation will be released in the third quarter of FY 2014. It will target grantees in CRIS pilot cities in Peru and Mozambique (i.e., Piura and Trujillo in Peru and Nacala-Porto in Mozambique) and will likely include Pemba and Quelimane in Mozambique, which are working with the USAID/Mozambique Mission under the Coastal Cities Adaptation Project (CCAP). Two to four grants are targeted, with funding expected to range from $50,000 to $100,000 per grant.

C. OBJECTIVE 1: SUPPORT FOR USAID MISSIONS AND BUREAUS

Under Objective 1, CCRD provides support for USAID Missions and Bureaus. During FY 2014-Q2, CCRD completed the Climate Resilient Development Framework and continued work on supporting Annexes/papers and provided support for the USAID integration pilot in Kazakhstan, including hosting a study tour for stakeholders from Kazakhstan and holding a Training of Trainers event in country.

ACTIVITY 1.1 GUIDANCE, PILOTS, AND RESEARCH

Task 1.1.1 Revise Vulnerability and Adaptation (V&A) Manual

The Climate Resilient Development framework document was revised, taken through the clearance process, and delivered to USAID on March 24, 2014. The document will be introduced by Kit Batten and the Global Climate Change (GCC) team at the Adaptation Community Meeting on April 7, 2014. Following the introduction, the document will be disseminated widely by USAID and the CCRD team.

Task 1.1.2 Develop Climate Briefs and Annexes

CCRD staff made progress during the quarter on four Annexes. Emphasis was given to ensuring that Annexes complement the mainstreaming guidance. A final version of the Water Annex was prepared and the remaining three Annexes are at various advanced stages of development.

Water Annex

During this quarter, the Water Annex was delivered to USAID as a final draft on 2/14/2014; it is awaiting clearance.

Coastal and Marine Annex

Comments on the Coastal Annex from the GCC team were incorporated; a draft for external review is anticipated to be delivered March 28, 2014.

Governance Annex

The original version of the Governance Annex drafted was rewritten and delivered to USAID for internal review on March 17, 2014.

Vulnerability Assessment Guidance Annex

During this quarter, the Vulnerability Assessment Annex was revised in response to USAID's comments and is being prepared for re-submission to USAID in the coming quarter.

Infrastructure Fact Sheets and Synthesis Paper

The Infrastructure factsheets and overview were translated into Spanish. Following a quality assurance/quality control (QA/QC) process by CCRD, both booklet and individual factsheet formats were created. The factsheets were taken with the CRIS team on their March 2014 trip to Peru and distributed to stakeholders and another set was printed and taken to the CRIS Climate Leadership Academy Workshop in Santo Domingo, Dominican Republic, for distribution.

Task 1.1.5 New Directions in Pilots and Research

Peer Learning Strategy

The Peer Learning Strategy White Paper was completed last quarter and was approved by USAID. A finalized version of the paper will be disseminated in the upcoming quarter.

Post Event Assessment of Resilience (PEAR)

The CCRD team made additional progress on PEAR during this quarter. In particular, they refined and added detail to an outline for preparing for and executing a PEAR process. This outline includes the following steps: (1) pre-assessment, (2) mobilizing for the assessment, (3) observation and other fieldwork, (4) analysis after initial field visit, (5) post-event return visits to assess adaptive capacity. In addition, a presentation of the PEAR approach has been created that succinctly describes the proposed approach. Future work will include follow-up discussion with the American Red Cross, CCRD partners, and the GCC team about potential next steps.

ACTIVITY 1.2 INFORMATION, TOOLS, AND SCIENCE AND TECHNOLOGY

Task 1.2.3 Support the United Nations Development Programme (UNDP) Adaptation Learning Mechanism (ALM) Website

The ALM website is entering the final phase of redevelopment – theming and content migration. The decision on where to host the site has been made and a plan for migrating content from the old site to the new has been developed. The CCRD team meets with the Aten Design Group weekly by telephone to raise and resolve issues. The planned launch date is the third quarter of FY14.

ACTIVITY 1.3 TECHNICAL ASSISTANCE AND CAPACITY BUILDING SUPPORT

Task 1.3.4 Provide support for USAID Integration Pilot in Kazakhstan

CCRD continued to support the USAID-funded and UNDP-implemented Climate Resilient Wheat (CRW) Integration Pilot during the reporting period, with activities focused on a training-of-trainers (TOT) on adaptation, review of the first video with partners, discussions with UNDP on joint communications, and convening of the study tour to the United States.

CCRD Training-of-Trainers (TOT) on Adaptation in the Wheat Sector

CCRD staff (Glen Anderson and Charlotte Mack) delivered a two-day TOT to a group of 10 trainers (nine from Kazakhstan and one from Tajikistan) plus three CRW staff. The purpose of this training was to familiarize trainers with the Climate-Resilient Development Framework and the first three stages in order to help local trainers design and deliver stakeholder workshops focused on options for responding to climate change in the wheat sector (and agriculture, more generally). On the following two days, local trainers reviewed the training agenda, presentations, and small group exercises, developed an agenda for their first stakeholder workshop, and adapted the training materials to the agenda. Following two days of preparation, the local trainers delivered the first stakeholder workshop to 18 farmers, agronomists, and other technical specialists at the Barayev Grain Institute in Shortandy.

CRW/CCRD Climate Resilient Wheat Video

The CCRD team presented the draft video of "Kazakhstan World of Wheat" for review by a wide variety of direct stakeholders. The video was shown to TOT participants in Borovoy. In Astana, the video was viewed by UNDP, USAID, KazAgroInnovation and Kazhydromet, and by staff at the national television network, Khabar. Once the video is revised by CCRD, several organizations

expressed interest in disseminating the video to their networks, including USAID/Kazakhstan, UNDP, KazAgroInnovation, and Khabar.

CRW/CCRD Collaboration on Communications

Michael Cote and Glen Anderson met with UNDP project staff to develop a joint communications strategy. Participants agreed to work together to develop the following joint communications products:

- Press release announcing the installation of the Climate Predictability Tool (CPT), a weather and climate forecasting software tool developed by IRI.
- Television interviews with Kazhydromet and UNDP staff once the CPT is installed.
- One page, multi-language overview of the drought index, translated into Russian and Kazakh for stakeholders close to the wheat production process.
- Press releases for U.S. audience on food security in the Central Asian Republics featuring CRW analysis and stakeholder discussions in the region.

CCRD Support for the CRW Study Tour

CCRD staff supported the CRW study tour, March 10-21, 2014. Glen Anderson accompanied the study tour to meetings in Lincoln, Nebraska, and participated in meetings in Washington, DC. ICF staffer Charlotte Mack accompanied the study tour to New York for meetings with IRI. The study tour suffered two-weather related setbacks, with the leg of the study tour in Raleigh, NC, cancelled because of weather issues departing Lincoln and a "snow day" in Washington, DC, that resulted in a few meetings with USAID and USDA. The meetings are expected to result in future collaboration/cooperation between organizations in Kazakhstan and counterparts at the University of Nebraska, the National Drought Mitigation Center, and the National Oceanic and Atmospheric Administration's (NOAA) National Weather and Climate Prediction Center.

D. OBJECTIVE 2: COORDINATE WITH OTHER US GOVERNMENT AGENCIES TO SUPPORT MAINSTREAMING

Objective 2 activities during the year focused on support for the Adaptation Partnership (AP), specifically the planning for an additional climate change training for Marine Protected Area (MPA) practitioners.

ACTIVITY 2.1 ADAPTATION PARTNERSHIP WORKSHOPS

Task 2.1.1 Conduct Adaptation Partnership Workshops

Climate Change Basics Training for MPA Practitioners (Western Indian Ocean [WIO] region)
CCRD, in conjunction with NOAA and the Western Indian Ocean Marine Science Association (WIOMSA), prepared for a second climate change training to be held in Mombasa, Kenya for managers of marine protected areas in the Western Indian Ocean region. However, due to security concerns, the training was canceled, and is being planned for a different location at a later time. The training will focus on vulnerability assessment and identification and evaluation of adaptation options, and will help to address key capacity building needs that were identified at the Adaptation Partnership workshop in Cape Town in February 2012.

E. OBJECTIVE 3: IDENTIFY AND RESPOND TO EMERGING ISSUES AND FILL GAPS

Under Objective 2, CCRD continued work during FY 2014-Q2 on the four emerging areas. The NAP working group produced a policy brief for UNFCC focal points. The brief is supported by a booklet describing USAID's NAP processes. Under High Mountain Adaptation Partnership (HiMAP), work continued on completing the Local Adaptation Plans for Action (LAPAs) in Peru and Nepal. The CSP promoted the results from the ICCS3 conference held in Jamaica, and continued supporting the Agricultural Model Intercomparison and Improvement Project (AgMIP). The CRIS program began engaging with the pilot cities in Peru, Dominican Republic, and Mozambique.

ACTIVITY 3.1 SUPPORT ADAPTATION PLANNING AND IMPLEMENTATION

Task 3.1.1 Support Preparation of National Adaptation Plans

During this quarter, in collaboration with the University of Rhode Island Coastal Resources Center, CCRD produced a revised policy brief that incorporated comments from country representatives, USAID's Africa Bureau, the West Africa Mission, and the Economic Community of West African States (ECOWAS). In the next quarter, the new draft will be distributed for review by the broader group of participants.

Joel Smith attended a United Nations Framework Convention technical meeting in Dar es Salaam, Tanzania in February on implementing National Adaptation Plans. He and Megan O'Grady drafted a paper on U.S. support for NAP.

Task 3.1.2 Develop and Pilot Fast-Track Implementation Concept

During FY 2014-Q2, CCRD partner ICF reviewed and revised the working paper, *Fast-Track Implementation of Climate Resilience: A Compilation of Adaptation Options*. The objectives of the compilation document are:

- To explain the concept of fast-track adaptation
- To describe how the fast-track approach can be used in practice
- To present a large set of fast-track adaptation options that can be employed

In Q3, the working paper will be submitted for review to USAID and the FTI approach will hopefully be piloted through the CRIS small grants program and the CRIS Trujillo pilot.

ACTIVITY 3.2 GLACIERS AND MOUNTAINS

Task 3.2.2 Develop the High Mountain Adaptation Partnership's (HiMAP) Community of Practice (CoP)

A majority of the CoP outreach involved initiating the Everest Alliance. To this end, Alton Byers and John Harlin undertook the following activities:

- Attended the Outdoor Retailers Show in Salt Lake City from January 21-15 to introduce and discuss the Everest Alliance concept with retailers, international climbers, and media groups. Feedback for the concept was enthusiastic, but difficult without direct funding. The group determined a greater likelihood of success by using the outdoor industry's marketing and social media reach to support the effort in synergistic ways.

- TMI Organized the Everest Alliance Inception Workshop at the American Alpine Headquarters in Golden, Colorado on February 9, 2014. Attendance at the workshop included 22 people from the climbing, medical, NGO, and private sectors and was facilitated by Steve McCormick from Skillful Means. The group discussed the basic need and overall concept of the Everest Alliance, its purpose and value, above and below basecamp needs, benefits, and stakeholders, composition, structure, and governance, and next steps. The workshop ultimately allowed for the crafting of a more directed small grant proposal to CCRD, which was submitted in late February to IRG/Engility and awarded in mid-March.

- To continue to facilitate group communication and bring newcomers into the discussion, the alliance started a Google Working Group.

- Alton Byers also delivered presentations at the USAID Adaptation Community in Washington, DC, The National Snow and Ice Data Center in Boulder, Colorado, and The Association for Nepal and Himalayan Studies meetings at Yale University.

Task 3.2.4 Implement CoP Pilot Project and Research

Nepal Regional Local Adaptation Plan for Action (LAPA)

The second draft of the Khumbu LAPA following writing and reviews by Dr. Shailendra Thakali, Dr. Alton Byers, and John Harlin was completed in February for wider sharing.

The Khumbu LAPA identified six priority climate-induced hazards ranked in order of importance as glacial lake outburst floods (GLOFs), landslides, heavy snowfall, windstorms, forest fires, and floods. It was determined that a total of 1,284 households would likely be affected by GLOFs, and 927 households by landslides. The impacts of heavy snowfall are more severe in Khumjung and Namche Village Development Committees (VDCs) than in Chaurikharka, whereas windstorm impacts are prevalent in all three VDCs. Chaurikharka is more sensitive to forest fires than the other two VDCs. In terms of vulnerability, the Sherpa population and forests were ranked as the most vulnerable sectors followed by biodiversity and agriculture. Other vulnerable sectors include the National Park, trekking hotels and lodges, mountaineering, hydropower, livestock, and water resources. A five-year implementation plan was developed, and prospective donors for each activity were identified. The Sagarmatha National Park and Buffer Zone, Buffer Zone Council, the District Development Committee, and Village Development Committees were identified as the most promising organizations for mainstreaming priority LAPA adaptation initiatives into existing and future developmental budgets.

Khumbu LAPA Integration

A series of follow-up meetings to mainstream the Khumbu LAPA were held with the Department of Hydrology and Meteorology (DHM), the Community-Based Glacial Lake Outburst Risk Reduction

Project (CBGLORRP – a joint undertaking of DHM and UNDP), the Department of National Parks and Wildlife Conservation (DNPWC), Sagarmatha National Park (SNP), Buffer Zone Council (BZC), National Trust for Nature Conservation (NTNC), District Development Committee (DDC) – Solukhumbu, and Khumbu Alpine Conservation Council (KACC).

The meetings with DHM and CBGLORRP focused on sharing key findings of the Khumbu LAPA and aligning it with CBGLORRP's plans and programs, preparing a protocol for sharing raw ground penetrating radar studies (GPR) and bathymetry data as requested by DHM, and exploring the possibility for the future collaboration. CBGLORRP's work plan for 2014 includes surveying and designing an early warning system, lowering Imja lake, and strengthening local glacial lake risk reduction capacities, all of which have been included as priority activities in the Khumbu LAPA. DHM, TMI and the University of Texas at Austin have signed a data-sharing protocol with DHM, which has allowed electronic copies of the raw GPR and bathymetry data to be transferred to DHM.

Meetings with DNPWC, SNP, BZC and NTNC were focused on integrating the Khumbu LAPA into the Sagarmatha National Park Management Plan, which is currently under review, as well as a-five year Buffer Zone plan. Dr. Thakali also attended a full day workshop on March 17th, where drafts of five mountain national park plans were presented. He highlighted the importance of climate change and adaptation options as emerging challenges in park management, and made a specific suggestion to include it as an additional program management component. The current management plans include only four program areas: the park, buffer zone, institutional building, and ecotourism. Dr. Thakali also provided copies of the Khumbu LAPA to a Senior Officer of DNPWC who is responsible for peer review of the Sagarmatha Park Management Plan and to the Executive Officer of NTNC who is the technical director for the review of management plans.

A visit to Sallari, the district headquarters of Solukhumbu, also took place from March 19 - 26 to present Khumbu LAPA to DDC and district-based line agencies, solicit DDC's endorsement and support to the plan, and agree on next steps for the implementation.

Khumbu Valley GLOF Reconnaissance, Risk Modeling, and Community-Based Risk Management and Mitigation

Collaboration with the UNDP Imja Lake GLOF Risk Reduction project continued this quarter with provisions of the HiMAP data on bathymetry and GPR studies at Imja Lake to the UNDP and DHM project staff in Nepal. Data and training materials on GPR processing were provided to DHM staff and they are now working on processing.

Development of the enhanced GLOF model of Imja Lake has continued with a more detailed terrain mapping provided by Damodar Lamsal of Kathmandu University, which has allowed the team to develop a two-dimensional flooding model with higher resolution inundation results at Dingboche as well as map the hazard to the community members there. Debris flow has been included in the new Flow-2D model, which was not possible before using the HEC-RAS modeling software.

Community-based Glacial Lake Risk Reduction and Watershed Management – Quillcay Watershed

The community consultation activities and establishment of the Waraq Municipal Commonwealth were completed in the previous quarter. This quarter project activities focused on supporting implementation.

TMI staff coordinated with the Ministry of Environment (MINAM) for a cycle of presentations, three in Huaraz and one in the Lima headquarters of MINAM, that were held March 10-17. The results were positive, being well received by technical groups in Huaraz and by MINAM, with the exception of the authorities in the Regional Government of Ancash who considered the risk of GLOF now minimized with the current emergency work of syphoning the lake to reduce it by approximately 3 meters in height. MINAM, on the other hand, committed its full support to the Waraq Commonwealth to implement the

early warning system and to see that the project to lower the Palcacocha lake as needed to reduce the risk of a GLOF is funded as soon as possible.

The technical committee established in December met to discuss the scope for hiring experts to design a project proposal for an Early Warning System for the city of Huaraz. In order to support capacities of the "Technical Multidisciplinary Committee" to address GLOF risk reduction, the project facilitated networking opportunities between the Commonwealth and Peru's National Center for the Assessment, Prevention and Reduction of Risk of Disasters (CENEPRED), National Engineering University, and the Ministry of Environment. These are key partners for the implementation phase and Memoranda of Understanding (MOUs) are expected to be signed between these government entities to support implementation of adaptation measures related to GLOFs.

The final version of a document presenting the role of the Commonwealth as an institutional mechanism to promote resilient economic development in the context of climate change was completed and printed by the Ministry of Environment at the end of March.

Progress on the teacher training program on high mountain glacier watershed risks and climate change continued. The Ministry of Environment funded the printing of the previous versions of Teacher Training materials (the first six student workbooks on the mountain geography of Cordillera Blanca). Huascaran National Park will contribute materials for the seventh workbook, which will be dedicated to the Huascaran Biosphere Reserve.

TMI coordinated a work plan with the MINAM to promote implementation of the Early Warning System (EWS) for the city of Huaraz. Consultant Fidel Rodriguez identified potential sources of funding for this investment and MINAM provided the funds to hire Ing. Cesar Portocarrero, an expert in GLOFs, and an economist to prepare the proposal which is now available. Two potential sources of funding – 1) FONIPREL (Public Fund for Local and Regional Investments) and 2) the Public-Private Associations Program "Works for Taxes" at PROINVERSION (Peru Agency for the Promotion of Private Investment). At the closing of the current quarter it was decided that the fastest track to finance the EWS is PROINVERSION. The proposal developed by MINAM is used to find private companies willing to advance tax money in highly visible social responsibility investments.

The proposal submitted by the Consortium Universidad Agraria La Molina – TMI to MINAM to implement conservation of wetlands in Quillcay watershed in 2014 was approved ($115,000). As noted in the previous quarterly report, MINAM is already directly implementing activities in support of adaptation in Quillcay watershed.

Climate change adaptation, risk mitigation, and disaster management capacity building for the high mountain city of Huaraz, Peru

Updated digital elevation model (DEM) data was obtained from MINAM after new aero-photography flights and production of DEM data by Horizons Company in Peru. This data is being used to improve accuracy of the Palcacocha Lake GLOF model. An avalanche model was used to determine the characteristics of small, medium, and large avalanches falling into Lake Palcacocha. A three-dimensional lake hydrodynamic model was developed to determine the nature of the waves potentially produced by avalanches into Lake Palcacocha. A moraine erosion and breaching study was carried out to determine the appropriate equations to use to determine the outflow from Lake Palcacocha in the event of a GLOF. The study by Denny Rivas, Daene McKinney, and Ben Hodges, "Predicting outflow induced by dam moraine failure in glacial lakes: the Lake Palcacocha case from an uncertainty perspective," is in final revision for submission for publication. A report on the modeling of a Lake Palcacocha GLOF and the resulting inundation in the city of Huaraz is under preparation (Somos-Valenzuela, M. A., Chisolm, R. E., McKinney, D. C., and Rivas, D.: "Hazard Mapping in Huaraz Due to a Glacial Lake Outburst Flood

from Palcacocha Lake, Peru," in preparation). The GIS system for the Quillcay watershed has been updated and a new report is being prepared describing its functionality.

Building scientific, social, and institutional capacity to mitigate risks of glacial lake recession and outburst floods

Training and technology transfers continued for the Peruvian Glaciology Unit in collaboration with French colleagues from the Research Institute for Development . Ground penetrating radar processing training documents were further refined and discussed with the Glaciology Unit staff. A joint poster was prepared for presentation by the IRD colleagues at the European Geophysical Union meeting in April 2014.

ACTIVITY 3.3 CLIMATE SERVICES

Task 3.3.2 Coordinate Activities of the Climate Services Partnership

To conclude the process for the third International Conference on Climate Services (ICCS3), the Secretariat completed and distributed the Conference Report to our international network. The new activity area in climate services ethics emerging from ICCS3 deliberations is under development. During this period, the Secretariat facilitated initial planning discussions with a few key members. The team developed a first draft Working Group terms of reference, which identifies the principal output and process for the group over the coming year and plans to produce a white paper aimed at articulation of key issues, review of relevant actions by other communities, and proposals regarding principles and guidelines.

Building on the discussions of ICCS3 and additional partner consultations, the Secretariat has developed a prospectus for ongoing and new activities of the CSP for this coming year. These activities fall under four broad categories: knowledge capture and dissemination, new knowledge initiatives/collaboration, supporting communities of practice, and program linkages. Presently, we are using this as a basis to solicit feedback and recommendations from the CSP membership and with sponsors, as we further develop the CSP work plan for this year.

Foremost among strategic partnership priorities is the connection to the Global Framework for Climate Services (GFCS). There is significant progress this period in planning collaborations with GFCS. First, it has been agreed that we will jointly develop a white paper on CSP/GFCS linkages, which will provide the context for both initiatives, outline complementarities, and propose ideas for more formal linkages.

A webinar lead by SERVIR on "Connecting space to village in the East/Southern Africa and Himalaya region" was organized. Furthermore, the third edition of the CSP Newsletter was distributed in early January; the newsletters are quarterly publications providing information, current events, and editorials targeted to the broad CSP network. Steve Zebiak also increased outreach of the CSP at the workshop on the European Copernicus Climate Change Information Service, as a member of the American Meteorological Society Board on Global Strategies, and in additional bilateral meetings/conference calls with USAID; CCAFS; NOAA; GFCS; UK Met Office; CSAG (Climate Systems Analysis Group, S. Africa); NASA/SERVIR, UNEP/Finance Initiative; IEDRO; U. Arizona; AGCI (Aspen Global Change Institute); UCAR Community Services Program; World Bank; IISD (International Institute for Sustainable Development).

Task 3.3.3 Compile and Disseminate Current Climate Services Knowledge

At the beginning of the year, the Climate Services Partnership website was copied from the Engility-hosted location to IRI's local web servers and databases. The Knowledge Exchange forums were rebuilt on the IRI site using standard Drupal forum software and IRI must still determine how the forums will interact with site search functionality. A further development effort was required to eliminate a large number of spam accounts and implement anti-spam measures on the site.

During ICCS3, Francesco Fiondella, Senior Communications Officer, covered a site visit and conducted interviews to capture farming life and challenges in a video documentary on Mafoota, a small farming community in St. James Parish, just outside Montego Bay. In the video documentary, Ana E. Bucher, World Bank, gives an informative overview of the climate challenges faced by Mafoota farmers. Some of the ICCS3 participants visited Mafoota as part of a learning journey organized by the Jamaican Rural Agricultural Development Agency (RADA) and supported by CCAFS. Drought is a main risk, Bucher writes, despite farmers having access to irrigation, which depends on a nearby stream. "Rainfall has been somewhat erratic in the past few years, leading to the stress of increasing droughts. These extreme climate events have shown local farmers that rivers can run dry and they need access to better information to act upon and adapt to increasing climate variability and change." The Mafoota video is available online: http://iri.columbia.edu/news/climate-services-for-farmers-jamaica/

Task 3.3.4 Conduct Case Studies and Assessments of Climate Services

Three mid-level evaluations are now available on the CSP website, with a fourth to follow shortly. The CSP group also discussed the utility of the guidelines that were used to develop the evaluation. The group concluded that the guidelines require more contextualization, and also more discussion of the evaluation of process rather than the evaluation of outcomes. In addition, there is also a need for guidelines regarding building in evaluation into projects. The team is now exploring these issues, with the hopes of developing a booklet by the end of the year. A second round of evaluations is also being planned. In addition, the secretariat is now in the process of placing interns to produce case studies on the user experience of climate service development.

Task 3.3.5 Economic Valuation of Climate Services

Primer on Valuing the Benefits of Weather, Climate, and Water Services

Glen Anderson, who is the lead editor on the primer, reviewed first drafts received from chapter authors and corresponded with editors and authors on a range of structure and content issues, with revised drafts of all chapters expected in mid-April. Jeff Lazo and staff at the National Center for Atmospheric Research (NCAR) have completed preparations for the upcoming workshop to review and revise the primer, scheduled for Boulder, April 28 – May 1.

Task 3.3.7 National/Regional-level Climate Services Development

Climate service capacities and communities of practice in West Africa

CCRD partner AGRHYMET hosted the workshop "Improving Resilience to Climate Impacts in West Africa Through Improved Availability, Access and Use of Climate Information: Dialogue With Users" in Niamey, Niger from January 21-23, 2014. The three-day workshop was attended by 34 people from 16 countries, about half of whom came from the national meteorological institutions while the rest were mainly *Groupe de Travail Pluridisciplinaire d'Assistance Agrométéorologique* (GTPA Multidisciplinary Working Group for Agro-meteorological Assistance) members. Participants of the workshop now have a better understanding of AGRHYMET's new data, tools, and information products. Participants were exposed to the basic concepts of climate risk management in their respective sectors. AGRHYMET also received critical feedback for improving the existing information products particularly the presentations in the Map Rooms.

Climate Services for smallholder farmers in Tanzania – at scale

On February 27, 2014, Simon Mason, conducted a CPT14 training to five staff at the Tanzania Meteorological Agency (TMA). The focus was on the new features of CPT14, but time was also spent revising the forecast tailoring options since TMA are receiving multiple requests for customized forecast products.

Central America Follow-up Workshops to Adaptation Partnership workshop

The Meteorological Service of Jamaica and the IRI have been corresponding on the set up of historical and near-real time meteorological station data format to be shared with the IRI Data Library (DL).

Honduras participants to the IRI workshop on Climate Information Tools for Agriculture and the IRI have been corresponding on setting up historical and near-real time meteorological station data format. The Servicio Meteorológico Nacional de Honduras (SMNH) is preparing a ftp site where monthly files of daily meteorological station data will be stored (on a near-real time monthly basis) to be shared with the IRI DL. SMNH is also finalizing the production of seasonal forecast with CPT, to be shared as well on the ftp site. Guatemala private Institute for Climate Change research (ICC) is working on data quality control of meteorological stations and the production of seasonal forecasts using CPT.

All the data formatting and sharing processes will allow for those datasets to be part of the IRI DL, and therefore all functionality for computation and visualization will be possible to apply on those data, for climate and soil water balance monitoring.

National-level Climate Services development in Jamaica

The climate services initiative, currently centered in the activities of the Working Group (WG) on Agriculture and Climate, has continued throughout the period, including two meetings of the participating organizations. IRI has supported this process through participation (remotely) in Working Group meetings, and providing advice and technical support.

Previously, IRI completed work with the Jamaica Met. Service to implement the IRI Climate Predictability Tool for forecasting drought conditions for the country, and this new product was introduced internationally at ICCS3. During the current period, the Jamaica Met Service has been focused on establishing a sound assessment of skill. S. Mason has provided technical assistance in this activity. The new drought outlook product has been introduced in the most recent farmer advisories, and a process for user-feedback (regarding clarity of information, usability, etc.) is being developed presently.

A current focus is on planning a stakeholder workshop – the first significant opportunity to assess agriculture community awareness, access, use, and value of climate information services piloted under this initiative. The workshop is planned for April 2014. IRI is supporting the planning process and advising on structure, content, and attendance, to help ensure that a process of stakeholder engagement and collaboration critical to the success of the climate service is put in place.

In parallel, IRI has initiated discussions with the partners on developing a high-level policy forum to encourage greater awareness and endorsement (ultimately buy-in) for climate services within the Government of Jamaica, especially important for their sustainability.

This quarter additional data was collected and assimilated in the IRI DL, supporting a soil water balance monitoring and prediction tool – the outcome of the tools training workshop hosted at IRI in November 2013, in which Jamaica WG partners participated.

Consultations with both Jamaica WG partners and partners in Uruguay have advanced in this period. IRI intends to support a South-South exchange process, where innovations developed in agricultural climate service in Uruguay can be shared with Jamaica partners. A visit by a technical team from Jamaica to Uruguay and a high-level policy discussion between government ministries and invited partners, most likely by teleconference or videoconference, are being organized.

Task 3.3.8 Develop Climate Services Products for the Agricultural Sector

IRI and Columbia's Center for Climate Systems Research (CCSR) continue collaborative activity to improve characterization of agricultural systems and the near-term climate scenarios that are likely to

stress them. The effort is yielding outputs that are likely to improve capabilities of developing country scientists. This includes the simulation of major agricultural systems and improved exploration of plausible near-term climate impacts by scientists and stakeholders through scenario analysis of decadal-scale climate variability and trends. It also includes work on the development of improved near-term climate scenarios.

Develop the next generation of Global Gridded Biophysical Model Systems

In partnership with the University of Chicago, AgMIP (The Agricultural Model Intercomparison and Improvement Project) researchers at CCSR continue to advance its prototype, a harmonized platform that uses multiple crop models and improved climate, soil, and management inputs for a parallel System for Integrating Impacts Models and Sectors (pSIMS). Presently pSIMS has translation apps for both the DSSAT and APSIM crop model interfaces that convert from standardized formats into model specific inputs and multiple output parsing apps.

The framework interface has been further refined to improve usability and operational capacity. Using examples performed within the pSIMS framework for DSSAT and APSIM in Africa, CCSR demonstrated the use of the operational prototype of the gridded database and multi-model interface for DSSAT and APSIM Crop Models. The example provides 1980-2010 mean simulated yields for Africa maize at 0.5 degree resolution, alongside the same simulations run at 0.25 degree resolution for Southern/Eastern Africa. The results of this work have been incorporated into an article entitled "The Parallel System for Integrating Impact Models and Sectors (pSIMS)" which was revised and accepted for a special issue of Environmental Modeling and Software: Agricultural systems modeling and software.

During the period, AgMIP researchers at CCSR also planned an upcoming workshop that will bring together experts in large-scale gridded crop and climate impact modeling with soil data experts to produce concrete advancements in gridded soil data representations and availability for Africa.

Develop Near-Term Climate Scenarios for AgMIP

The simulation model focused on the West Africa subdomain of Sub-Saharan Africa (the Sahel region) is undergoing evaluation. A model is also now being developed for several subdomains in South Asia, focusing on southern India and Sri Lanka. Precipitation climatologies in this region are complex, and involve both the southwest and northeast monsoons, as well as an intermediate rainfall season during Northern Hemisphere Spring. Consultation with CCSR-based experts in South India climatology (and partners in Tamil Nadu and Andhra Pradesh) is helping to advance this work.

A new method for "verifying" or testing, the simulation model code continues to be developed, and is based on what is sometimes called the "perfect model" approach, under which output from one of the CMIP5 global climate models (GCMs) is taken to represent the observational record. The simulation model is trained on this output as if it were the actual climate observations. Projections are then generated for future climate. Unlike in the case of the real observations, however, the GCMs also provide data for the future, with which the simulations can be compared. A suite of GCMs is rotated through this procedure, which can shed light on both the performance of the simulation model and the consistency of GCM behavior across centuries. As before, the AgMERRA data is being resampled in order to generate climate sequences on the daily time step; the use of common data formats makes it possible for model output to be readily ingested by the full range of follow-on agricultural models.

In February 2014, Alex Ruane presented portions of this work at the AgMIP South Asia and Sub-Saharan Africa Finish Line Workshop in Arusha, Tanzania. Near-term climate scenarios were agreed upon as an important area of continued research and application of interest to agricultural stakeholders and policymakers in South Asia and Sub-Saharan Africa. A stakeholder panel at the workshop echoed earlier indications that many adaptation plans are being developed for the next couple of decades, but little information is available as there is little skill in climate prediction on decadal time scales. The

method described provides a way of delimiting uncertainty, given this lack of predictive ability, and represents a promising contribution to near-term climate change research. This is an innovation for the assessment of agriculture and food security risks in the near term to better inform adaptation efforts in support of Climate Change Resilient Development. Shorter time frames are more relevant for agricultural decision-makers in the developing world than are the centennial time horizons that have been the focus of recent Intergovernmental Panel on Climate Change reports.

Task 3.3.10 International Research Institute for Climate and Society (IRAP)

The IRI has further populated the prototype project website to highlight research progress, events, and informational products. The website can be accessed at: http://irap.iri.columbia.edu.

During March 5-5, 2014 the University of Arizona hosted the IRI for a project planning meeting in which IRAP team members jointly discussed the goals and objectives of the Stakeholder Workshop and developed a draft agenda. The concept paper on disaster index insurance was finalized and uploaded to the project webpage.

ACTIVITY 3.4: CLIMATE RESILIENT INFRASTRUCTURE SERVICES PROGRAM

During this quarter, CCRD partner ICF continued to implement the Climate Resilient Infrastructure Services Program. CRIS is developing and testing approaches that can increase the climate resilience of infrastructure assets and the services they provide in developing countries.

Task 3.4.2 CRIS Support to Pilot Cities to Accelerate Climate Risk Management

In this quarter CCRD partners ICF, Stratus, and Cascadia worked in pilot cities in Mozambique, Peru, the Dominican Republic, and Vietnam. In Mozambique, Peru, and the Dominican Republic the team focused on finalizing and implementing the CRIS work plans with each city in alignment with USAID's Climate-Resilient Development Framework. In these countries, ICF and Stratus developed and tested methods for stakeholder-driven climate vulnerability assessment, a climate vulnerability assessment screening approach, and took preliminary steps for implementation of Fast-Track Implementation approaches to identify and evaluate adaptation options. In Hue and Hanoi, Vietnam, CCRD partner Cascadia continued to implement a customized Climate Impacts Decision Support Tool (CIMPACT-DST) for the Government of Vietnam. The following sections summarize the progress achieved in each pilot city during this reporting period.

Mozambique

This quarter, CCRD partners ICF and Stratus visited Nacala-Porto, Mozambique from January 13-24, 2014. This trip focused on prioritization and refinement of work plan activities, building municipal ownership of the program of work, developing partnerships to implement work plan activities, and collecting information to support implementation of work plan activities. A working session with key municipal stakeholders was organized and led by Eng. Adelino Emílio Cobre, CRIS local point of contact in Nacala-Porto, in order to prioritize activities and to refine the scope to fit within a compressed timeline. The municipality prioritized three activities: Conducting awareness-raising activities and trainings with municipal staff and other key stakeholders; Identifying, prioritizing, and selecting adaptation options: and Conducting a write-shop to help facilitate climate-resilient project financing.

Other key outcomes in the trip included confirmation of Mozamabique's National Institute of Disaster Management's (INGC) interest and intent to collaborate on the work plan, collection of information to support work plan activities, and discussions with the UN-Habitat and USAID/Mozambique's Coastal Cities Adaptation Project team regarding collaboration opportunities.

Subsequent to the visit, the CRIS team finalized the Nacala-Porto work plan. The work plan focuses on the vulnerability of critical infrastructure services to erosion, including transportation, municipal buildings, and residences. The work plan confirms the priority goals, scope of work, tasks, and respective responsibilities of the municipal government and CRIS experts for the pilot city work.

During the next quarter, CCRD partners ICF and Stratus will continue working on logistics and developing materials for the training-of-trainers, CRD Awareness Raising Workshop, and MOU signing to be implemented during the April 2014 trip as well as conduct a visit in April 2014 to begin implementing the city's work plan. The team will also collect information to support implementation of vulnerability assessment approaches and to help the municipality identify, prioritize, and select adaptation options on subsequent trips.

Dominican Republic

In this quarter, CCRD partner ICF worked with the Santo Domingo National District (Ayuntamiento del Distrito Nacional or ADN), USAID GCC, and USAID/Dominican Republic to: 1) formalize the working relationship between ADN and the USAID/Dominican Republic through an MOU and 2) continue implementation of the work plan. The ICF team conducted two trips to Santo Domingo in the quarter.

The first trip to Santo Domingo took place from February 2-7, 2014. During this trip, the CCRD team facilitated an MOU signing ceremony between the US Ambassador and the Mayor of ADN and advanced the analysis of climate impacts on sanitation infrastructure in the 3rd Ward. The activities conducted during this trip continue to relate to the Scope and Assess phases of the CRD framework. The signing ceremony was well covered by the press and provided good visibility for USAID and the CRIS program. Furthermore, a technical assistance workshop was held to further the implementation of the CRD framework and the approach to vulnerability analysis by the working group members. The objective of the workshop was to implement a stakeholder-driven process to enable the working group members to present information they have developed on sanitation in the 3rd Ward, the impacts of past tropical storms, and a communications and outreach plan for the affected neighborhoods.

A second trip was conducted in conjunction with the Workshop for Latin American Cities from March 26-28. The objective of the trip was to advance implementation of the vulnerability assessment with the working group members.

The CRIS team also conducted or facilitated activities to support pilot implementation from the United States, which included examining climate-related vulnerabilities, and potential adaptation strategies, for the sanitation and water sectors serving the northern section (Ward 3) of Santo Domingo's National District.

Peru (Piura)

In this quarter, CCRD Partner ICF worked with the Municipality of Piura to develop a list of high-priority planned infrastructure projects and city operations that face relevant climate risks. The CRIS team provided guidance to the municipality on the types of information needed to inform a vulnerability assessment of these projects/operations and identification of possible adaptation measures. Municipal staff in Piura collected the relevant information and developed a list of 47 projects across water and sanitation, transportation, flood protection, housing, parks and landscaping, and waste management sectors.

Furthermore, the CRIS team developed a vulnerability assessment screening approach tailored to the Piura context and based on the CRD Framework. CCRD partner ICF developed a draft guide, "Climate Vulnerability Screening Assessment Guide," to screen the vulnerability of projects and operations in the

following sectors: transportation, water and sanitation, flood control, solid waste management, and parks and landscaping.

The team also conducted a trip to Piura in March 2013 to continue implementation of the work plan. Activities during the visit included a half-day training session on a vulnerability assessment screening approach; two half-day technical assistance sessions where the CRIS team worked with key technical staff in the municipality to test the vulnerability screening approach on five proposed infrastructure projects and municipal operations; support for Piura's participation in the CRIS Climate Leadership Workshop in Santo Domingo, Dominican Republic on March 26th through the 28th.

During the next quarter, the CRIS team will work to refine the vulnerability assessment approach and climate information summaries based on feedback from workshop participants during the March visit; work with CCRD partner Cascadia to tailor an approach for identification and evaluation of adaptation options across a full range of measures (e.g., hard and soft, short and long term) to help address the vulnerabilities in Piura; and conduct a visit to Piura in May 2014 to implement and test the approach for identifying and evaluating adaptation measures in Piura

Peru (Trujillo)

In this quarter, CCRD Partner ICF completed a draft work plan of activities to undertake with Trujillo and conducted a visit to Trujillo in March 2014. While in country the team arranged the signing of an MOU between USAID/Peru and the Municipality of Trujillo to formalize the work plan. The team also implemented a half-day training workshop to establish a common understanding of key concepts related to climate resilience, better understand how Trujillo incorporates climate into development and planning activities, and identify short- and long-term adaptation measures to reduce climate risks to infrastructure projects. A number of working meetings with the municipality also took place to begin implementation of the work plan by collecting information that will help to inform an approach for the identification and selection of adaptation measures.

During the next quarter, the CRIS team will conduct a visit to Trujillo to implement an approach to identify and select adaptation options to address vulnerabilities in priority municipal projects and services

Task 3.4.4 Global City-To-City Information Exchange

In this quarter, efforts focused on preparing for and holding the CRIS Regional Climate Leadership Academy workshop, which was held in Santo Domingo, Dominican Republic from March 26-28, 2014. The workshop brought together eight cities in Latin America and the Caribbean – including the CRIS pilot cities of Piura, Trujillo, and the National District of Santo Domingo – to share best practices and lessons learned on climate resilience of municipal infrastructure services.

The three-day workshop included plenary presentations, panel discussions, discussion-focused concurrent sessions, and daily team huddles. Attendees included approximately 50 individuals, including representatives of participant city teams, resource team members, USAID mission representatives, and CRIS team members. Participants engaged actively in discussions, shared their experiences openly and frankly, and readily made connections with other participants.

The outcomes of the workshop include a newfound sense of community among participants after hearing other cities in the region describe the same challenges they faced. There was enthusiasm to continue the community and build upon the network after the workshop; pilot city representatives became convinced of the need for climate change adaptation action; state-level representatives identified prior misunderstandings and more effective ways of collaborating across government levels; and participants felt recharged and motivated after interacting with their peers. Inspired by the workshop discussions and daily meetings in team huddles, participant teams put together ambitious action plans, which called for increased collaboration across sectors and at different levels of government,

mainstreaming of climate considerations into various planning instruments, and capacity building for different stakeholder groups.

In the next quarter, a version of the Resource Guide in both English and Spanish will be broadly disseminated as well as a workshop report that summaries key challenges, solutions, and remaining needs articulated during discussions.

Task 3.4.5 Provide Information and Technical Resources to USAID Staff

CCRD partner ICF participated in a debrief conversation about the December 2013 Infrastructure Workshop in Washington, DC, which included a brainstorming session for how best to integrate climate change topics, including climate change adaptation, into future USAID trainings.

ICF also worked with USAID GCC staff to develop a description for a session at a USAID training on climate change and adaptation economics to be held May 7, 2014. The session will focus on CRIS' vulnerability assessment screening approach implemented in Piura, Peru as a case study, and participants will engage in a facilitated discussion to understand how this approach could facilitate economic analysis, practical considerations in evaluating adaptation options, and possible constraints and limitations.

Task 3.4.6 Evaluate CRIS Activities and Recommend Next Steps

The CRIS team tracked indicators for monitoring and evaluation of the CRIS program, drawing on the CCRD indicators applied in Year Two. CRIS staff completed a baseline assessment of the Nacala-Porto pilot. For the Piura and National District of Santo Domingo, the CRIS team collected pre- and post-workshop survey information to assess the increase in capacity of participants. These surveys were developed to be consistent with CCRD indicators. In the next quarter, measurement and evaluation activities will be undertaken directly within each pilot. This information will be shared through quarterly reporting indicators and will feed into CCRD-wide evaluation activities.

Task 3.4.7 Cascadia Vietnam Pilot

In FY14-Q2, CCRD partner Cascadia Consulting Group continued evaluation of the pilot release of their CIMPACT-DST in Hue, Vietnam and continued scoping, planning, and information-gathering activities for the national deployment of the tool with partner organizations in Hanoi.

During a visit to Hanoi on March 5-7, 2014, the Cascadia team finalized a detailed project work plan and needs assessment with in-country collaborators at the Vietnam Institute for Urban-Rural Planning (VIUP). These documents solidified the Institute's commitment and detailed roles and responsibilities for their engagement in the project over the coming months. The team also worked with VIUP to review and revise descriptions of the tool's scope of use and use scenarios, which will inform future tool design and plans for tool dissemination, use, and administration.

Cascadia continued ongoing evaluation of the pilot tool in Hue through email correspondence with local tool administrators at the Hue Planning Institute. This quarter, the team learned that Hue tool administrators updated the tool's flood maps and hope to revise the tool output page so that it can be more easily integrated into standard reporting formats.

ANNEX I. CCRD PERFORMANCE INDICATORS AND ACHIEVEMENTS

During FY 2014-Q2, implementation activities supported ten of the 11 performance indicators specified in the CCRD Performance Management Plan. Below is a summary of CCRD performance indicator achievements, followed by a summary table.

Indicator #1: Number of people with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance (mandatory for Adaptation funding). This indicator is the most stringently measured under CCRD. Measuring adaptive capacity requires an initial baseline assessment of the targeted capacity(ies) and a post-intervention assessment. Due to the need for post-intervention assessment and follow-up, some interventions are not reported until a later reporting period.

(1) ATREE two-day workshop on Linking Disaster Risk Reduction, Climate Change Adaptation, and Sustainable Landscape Development Goals in the Eastern Himalaya from February 25th-26th. 33 participants (25 men and 8 women).

(2) Three-day CRIS regional Climate Leadership Academy (CLA), *Increasing the Climate Resilience of Infrastructure Services in Cities across Latin America and the Caribbean*, in Santo Domingo, Dominican Republic: 19 participants (10 men and 9 women).

Indicator #2: Number of stakeholders receiving training in climate change supported by USG assistance (Person-hours of training completed in climate change supported by USG assistance). Training is defined as a learning activity involving 1) a setting intended for teaching or transferring knowledge, skills, or attitudes; 2) formally designated instructors or lead persons; 3) a defined curriculum, learning objectives, and outcomes. Meetings or other efforts that could have educational value but do not have a defined curriculum or objectives are not considered training.

Support for indicator #2 resulted from 13 workshops/trainings:

(1) Zamorano training events in Honduras (Santa Ines Microwatershed and Jacaleapa), El Salvador, and Nicaragua (231 people, 123 men, 108 women, 952 hours of training, 436 hours of training for men, 516 hours of training for women)

(2) CATIE training events in Nicaragua and Honduras (78 people, 53 men, 25 women, 486 hours of training, 318 for men, 150 for women)

(3) Final workshop on evaluating water quality in the Shallap and Quillcayhuanca gorges (Cordillera Blanca), organized by grantee Raul Loayza Muro (9 people, 5 men, 4 women, 4 hours of training, 2 hours for men, 2 hours for women)

(4) One-day Kazakhstan Hydrometeorological Center training on seasonal forecasting in March 2014. (12 people, 8 men, 4 women, 96 hours of training, 34 hours of training for men, 64 hours of training for women)

(5) Three-day AGRHYMET workshop '*Improving Resilience to Climate Impacts in West Africa Through Improved Availability, Access and Use of Climate Information: Dialogue With Users'* in Niamey, Niger from January 21-23, 2014 (34 people, 31 men, 3 women, 816 hours of training, 744 hours of training for men, 72 hours of training for women).

(6) One-day TMA CPT14 workshop on February 27, 2014 (5 people, 3 men, 2 women, 40 hours of training, 24 hours of training for men, 16 hours of training for women).

(7) CRIS refresher training on the fundamentals of vulnerability screening to Santo Domingo working group (22 people, 9 men, 13 women, 44 hours of training, 18 hours of training for men, 26 hours of training for women).

(8) Half-day workshop/training held on March 4, 2014 to explain and train Piura stakeholders on the climate change vulnerability assessment approach and present summary information on future changes in climate (15 people, 10 men, 5 women, 60 person-hours of training, 40 hours of training for men, 20 hours of training for women).

(9) Half-day Roundtable Workshop on Climate Resilience in Trujillo held on March 12, 2014 (37 people, 25 men, 12 women, 148 person-hours of training total, 100 hours of training for men, 48 hours of training for women).

Indicator #3: Number of laws, policies, strategies, plans, agreements, or regulations addressing climate change officially proposed, adopted, or implemented as a result of USG assistance

(1) Climate change language officially proposed for incorporation into the Piura Urban Development Plan. The text was submitted to the municipality, who provided it to technical consultants that are finalizing the plan with the recommendation that it be included in the final text.

(2) Three Memorandums of Understanding (MOUs) signed with CRIS pilot cities: The MOUs formally recognize the partnership between USAID Missions and the pilot cities participating under the CRIS program; they describe the purpose, scope of pilot activities, and non-binding roles for each of the parties to the agreement. The first MOU was signed by the USAID/Peru Mission Director and the Municipality of Piura in Q1 of FY2014 on November 22, 2013. The second MOU was signed by the U.S. Ambassador to the Dominican Republic and the National District of Santo Domingo, Dominican Republic on February 6, 2014. The third MOU was signed by the USAID/Peru Mission Director and the Municipality of Trujillo on March 11, 2014.

Indicator #4: Amount of investment leveraged in U.S. dollars from private and public sources, for climate change as a result of USG assistance

CCRD benefitted from the financial contributions of numerous public and private organizations. Not all organizations providing leverage have been forthcoming in sharing cost information. In those instances, an estimate of the value of leverage is provided based on CCRD's experience in convening similar events such as international conferences and workshops.

Inter-American Development Bank **($4,150)**

(1) Leveraged from the Inter-American Development Bank (IDB) to fund airfare, lodging, per diem, and other travel costs for three participants (two from Campeche, one from Mexico City) to

attend the CRIS Climate Leadership Workshop in Santo Domingo, Dominican Republic from March 26th to 28th.

Foundation for Ecological Security **($10,000)**

(1) Initial cost share contribution for the University of Michigan CCRD grant.

Indicator #5: Number of institutions with improved capacity to address climate change issues as a result of USG assistance. Measuring improved institutional capacity requires an initial baseline assessment of the targeted capacity(ies) and a post-intervention assessment. Due to the need for post-intervention assessment and follow-up, some interventions are not reported until a later reporting period.

Support for indicator #5 resulted from four workshops/trainings:

(1) ATREE two-day workshop on Linking Disaster Risk Reduction, Climate Change Adaptation, and Sustainable Landscape Development Goals in the Eastern Himalaya from February 25th-26th. 33 participants (seventeen institutions).

(2) Collaboration between University of Michigan and Foundation for Ecological Security to improve FES's ability to research and implement activities that target climate change resilience and adaptation (one institution)

(3) One-day Kazakhstan Hydrometeorological Center training on seasonal forecasting (nine institutions)

(4) TMA CPT14 workshop on February 27, 2014 (one institution)

Indicator #6: Number of days of USG funded technical assistance (TA) in climate change provided to counterparts or stakeholders. Includes the transfer of knowledge and/or expertise by way of staff, skills training, research work and financing to support quality of program implementation and impact, support administration, management, representation, publicity, policy development and capacity building. Generally, workshops/meetings that are not counted under Indicator #2 (climate change training) are included here.

(1) Thirty days of TA from consultant Uttam Shrestha (University of Massachusetts) for downloading, cleaning, and organizing regional climate data (temperature and precipitation)

(2) Twenty-Eight days of TA to the Foundation of Ecological Security on research setup from the University of Michigan.

(3) Seventeen days of TA from Brent McCusker in training to Malawian research collaborators and 12 enumerators on implementing climate change surveys and training to households.

(4) Twelve days of TA from four CCSR staff at the AgMIP Finish Line Workshop in Tanzania from January 30th to February 4th

(5) Six days (three days each) of TA from Mike Savonis and Natalia Sanint (ICF) for providing technical assistant to the working group members representing ADN, Corporación del Acueducto y Alcantarillado de Santo Domingo (CAASD), National Office on Meteorology (ONAMET) and IDDI on vulnerability analysis as related to the climate impacts; specifically for the Ward 3 infrastructure in the Sanitation Master Plan, including indoor meetings and a site visit.

(6) Two days (two half-day working meetings each) of TA from Judsen Bruzgul and Joanne Potter for providing technical assistance to Piura stakeholders on implementing the vulnerability assessment approach and beginning to identify and prioritize potential vulnerabilities in planned infrastructure projects and operations on March 5 and 6, 2014 (12 stakeholders in attendance; 8 men, 4 women)

(7) One day of TA from Spencer Reeder and Andrea Martin of Cascadia Consulting Group at the Vietnam Institute of Meteorology, Hydrology, and Environment (IMHEN)

Indicator #7: Number of climate adaptation tools, technologies and methodologies developed, tested, and/or adopted as a result of USG assistance

(1) University of Colorado developed two tools relating to focus group protocol, structured and unstructured ethnographic observation protocols

(2) University of Michigan developed ten tools including household survey instrument, village instrument and overall research design methodology, as well as the electronic programming for these instruments and M&E data collection tools.

(3) Under a Round 1 CRIS small grant, TERI adopted a multi-model ensemble approach for sea level rise analysis using A1B scenario of IPCC AR4 and using six IPCC models. TERI post-processed the data and analyzed the sea level anomalies using the ensemble for the coast lines of Panaji and Vishapkkapatnam.

(4) One vulnerability assessment screening approach and tool developed that is tailored to the Piura context. The tool includes: (1)a Guide with detailed questions for assessment of projects in water and sanitation, transportation, flood protection, parks and landscaping, and waste management sectors; (2) PowerPoint presentation slides to introduce the tool and facilitate its implementation; (3) an Excel-based worksheet to capture assessment inputs and display results.

(5) Adaptation of a biotic index based macroinvertebrates to evaluate water quality in high altitude Andean streams by Rual Lazyza Muro.

Indicator #8: Number of climate vulnerability assessments conducted

(1) CATIE vulnerability assessment of the impact of climate change on land suitability for seven species used in silvopastoral systems in Central America

(2) Vulnerability assessments were conducted on five planned infrastructure projects and operations in the Piura pilot city.

(3) One vulnerability assessment was conducted for the city of Manado by Yayasan Kota Kita under Round 1 of the CRIS small grant program.

Indicator #9: Number of people registering to participate in adaptation-related communities of practice

The Climate Services Partnership established 7 new contacts. For a list of contact names and emails please refer to Cathy Vaughan at IRI cvaughan@iri.columbia.edu.

Indicator #10: Number of unique visitors logging on to/accessing the adaptation-related websites supported with USG assistance

CCRD monitored visits to the Adaptation Partnership, Climate Services, and High Mountain websites:

1. Adaptation partnership: **986 unique visitors**
2. HMGWP Community of Practice: **913 unique visitors**
3. CSP Community of Practice: **4,169 unique visitors**
4. Central America Climate Resilient Agriculture: **12 unique visitors**

Indicator #11: Number of adaptation financing proposals benefitting from USG assistance

Data is forthcoming.

CCRD Performance Indicators and Achievements

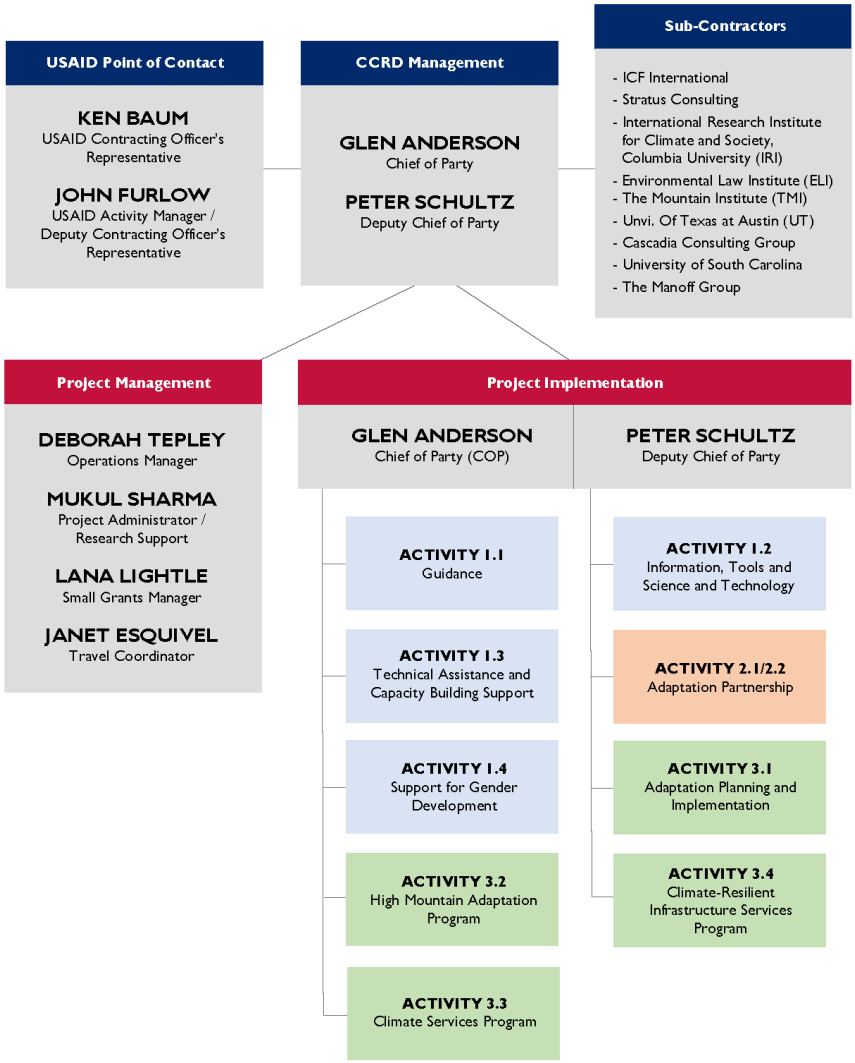
#	Indicator	Unit	FY 2012 Actuals	FY 2013 Actuals	Achievement – FY 2014						CCRD Cumulative FY 2012 – FY 2014
					FY 2014 Targets	QTR 1	QTR 2	QTR 3	QTR 4	FY 2014 Total	
1	Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance (mandatory for Adaptation funding) **MEN**	Number	48	4	70	0	**35**			35	**87**
	Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance (mandatory for Adaptation funding) **WOMEN**	Number	9	0	30	3	**17**			20	**29**
2	Number of people receiving training in climate change supported by USG assistance (Person-hours of training completed in climate change supported by USG assistance) **MEN**	Number/ Hours	376/ 7,913	1,665/ 36,585.50	600/ 10,000	626/ 8,600	**267/ 1,716**			893/ 10,316	**2,934/ 54,814.50**

#	Indicator	Unit	FY 2012 Actuals	FY 2013 Actuals	Achievement – FY 2014						CCRD Cumulative FY 2012 – FY 2014
					FY 2014 Targets	QTR 1	QTR 2	QTR 3	QTR 4	FY 2014 Total	
	Number of people receiving training in climate change supported by USG assistance (Person-hours of training completed in climate change supported by USG assistance) **WOMEN**	Number/ Hours	148/ 2,736	890/ 21,311	200/ 5,000	471/ 6,029	**176/ 914**			647/ 6,943	**1,631/ 30,990**
3	Number of laws, policies, strategies, plans, agreements, or regulations addressing climate change officially proposed, adopted, or implemented as a result of USG assistance	Number		11	12	0	**4**			4	**15**
4	Amount of investment leveraged in US dollars from private and public sources, for climate change as a result of USG assistance	Dollars	$440,000	$804,425	$600,000	$108,238	**$14,150**			$122,388	**$1,438,813**
5	Number of institutions with improved capacity to address climate change issues as a result of USG assistance	Number	272	386	20	52	**28**			80	**738**

#	Indicator	Unit	FY 2012 Actuals	FY 2013 Actuals	Achievement – FY 2014						CCRD Cumulative FY 2012 – FY 2014
					FY 2014 Targets	QTR 1	QTR 2	QTR 3	QTR 4	FY 2014 Total	
6	Number of days of USG-funded technical assistance in climate change provided to counterparts or stakeholders	Days	171	141.50	160	46	**96**			142	**454.50**
7	Number of climate adaptation tools, technologies and methodologies developed, tested, and/or adopted as a result of USG assistance	Number	6	19	20	19	**15**			34	**59**
8	Number of climate vulnerability assessments conducted	Number	5	1	N/A	0	**3**			3	**9**
9	Number of people registering to participate in adaptation-related Communities of Practice	Number	80	349	N/A	391	**7**			391	**820**
10	Number of people logging on to/ accessing the adaptation-related websites supported with USG assistance	Number	7,687	9,908	N/A	9,627	**6,080**			15,707	**33,302**
11	Number of adaptation financing proposals benefitting from USG assistance	Number		**3**	N/A	0	**0**			0	**3**

ANNEX II. ORG CHART

Exhibit 2. Organization Chart



PROJECT MANAGMENT ---------- GLEN ANDERSON

WORK PLAN ---------- G. ANDERSON / KEN BAUM
PMP ---------- G. ANDERSON / K. BAUM
STRATEGIC PLANNING/SAC ---------- G. ANDERSON / JOHN FURLOW
REPORTING ---------- DEBORAH TEPLEY / K.BAUM
COMMUNICATIONS, OUTREACH AND COMMUNITIES OF PRACTICE ---------- MICHAEL COTE / JENNY FRANKEL-REED
POC FOR SUBCONTRACTOR/CONSULTANTS ---------- D. TEPLEY / K.BAUM
SMALL GRANTS ---------- LANA LIGHTLE / K.BAUM

PROJECT IMPLEMENTATION ---------- GLEN ANDERSON / PETER SCHULTZ

1.1 ACTIVITY: GUIDANCE ---------- G. ANDERSON / J. FRANKEL-REED
1.1 GUIDANCE, BRIEFS AND ANNEXES ---------- YOON KIM / J. FRANKEL-REED
CLIMATE RESILIENT DEVELOPMENT FRAMEWORK ---------- Y. KIM / J. FRANKEL-REED & JONATHAN COOK
DIAGNOSIS ANNEX ---------- P. SCHULTZ / J. FRANKEL-REED & J. COOK
COASTAL AND MARINE ANNEX ---------- JASON YOGEL / J. COOK
DIFFERENTIATED VULNERABILITY ANNEX ---------- ED CARR / ANDRE MERSHON
GOVERNANCE ANNEX ---------- JESSICAL TROELL / J. COOK
CLIMATE INFORMATION GUIDE ---------- P. SCHULTZ / J. FRANKEL-REED
NEW DIRECTIONS IN PILOTS AND RESEARCH ---------- P. SCHULTZ / J. FURLOW

1.2 ACTIVITY: INFORMATION, TOOLS AND SCI AND TECH ---------- P. SCHULTZ / J. FRANKEL-REED
UNDP ADAPTATION LEARNING MECHANISM WEBSITE ---------- M. COTE / J. FRANKEL-REED

1.3 ACTIVITY: PROVIDE CAPACITY BUILDING SUPPORT ON MAINSTREAMING ---------- G. ANDERSON
SUPPORT DEVELOPMENT OF USAID'S FEDERAL AGENCY CLIMATE CHANGE PLAN ---------- MICHELLE COLLEY / NORA FERM
SUPPORT FOR USAID INTEGRATION PILOT IN KAZAKHSTAN ---------- G. ANDERSON / J. FRANKEL-REED
SUPPORT FOR CLIMATE RESILIENT LOW EMISSIONS DEVELOPMENT STRATEGIES ---------- CHARLOTTE MACK / J. FURLOW

1.4 SUPPORT FOR GENDER DEVELOPMENT
TECHNICAL ASSISTANCE TO THE OFFICE OF GENDER EQUALITY AND WOMEN'S EMPOWERMENT ------ E. CARR / A. MERSHON

2.1/2.2 ACTIVITY: ADAPTATION PARTNERSHIP ---------- P. SCHULTZ
2.1 ADAPTATION PARTNERSHIP ---------- ROSAMUND MISCHE JOHN
CONDUCT URBAN ADAPTATION PARTNERSHIP WORKSHOP ---------- C. MACK / N. FERM
CONDUCT CLIMATE AND SECURITY ADAPTATION PARTNERSHIP WORKSHOP ---------- MUKUL SHARMA / J. FURLOW
CONDUCT TRANING ON MAINSTREAMING FOR MARINE PROTECTED AREA MANAGERS ---------- Y. KIM / J. COOK

3.1 ACTIVITY: SUPPORT ADAPTATION PLANNING AND IMPLEMENTATION ---------- P. SCHULTZ
SUPPORT PREPARATION OF NATIONAL ADAPTATION PLANS (NAPS) ---------- Y. KIM
DEVELOP AND PILOT FAST TRACK IMPLEMENTATION CONCEPT ---------- P. SCHULTZ

3.2 ACTIVITY: HIGH MOUNTAIN ADAPTATION PROGRAM ---------- G. ANDERSON
3.2 HIGH MOUNTAIN AND ADAPTATION PROGRAM ---------- M. COTE
DEVELOP THE HIGH MOUNTAIN ADAPTATION PROGRAM CoP SECRETARIAT ---------- JOHN HARLIN
IMPLEMENT COMMUNITY OF PRACTICE PILOT PROJECTS AND RESEARCH ---------- TMI / UT

3.3 ACTIVITY: CLIMATE SERVICES PARTNERSHIP ---------- G. ANDERSON
3.3 CLIMATE SERVICES ---------- FERNANDA ZERMOGLIO
COORDINATE ACTIVITIES OF THE CLIMATE SERVICES PARTNERSHIP ---------- STEVE ZEBIAK
COMPILE AND DISSEMINATE CURRENT CLIMATE SERVICES KNOWLEDGE ---------- IRI STAFF
CONDUCT CASE STUDIES AND ASSESSMENTS OF CLIMATE SERVICES ---------- IRI STAFF
ECONOMIC VALUATION OF CLIMATE SERVICES ---------- G. ANDERSON
PILOT NATIONAL-LEVEL CLIMATE SERVICES ANALYSIS ---------- S. ZEBIAK/IRI
DEVELOP CLIMATE SERVICES PRODUCT FOR AGRICULTURAL SECTOR ---------- IRI STAFF
CLIMATE SERVICES TECHNICAL BACKSTOPPING OF DEVELOPMENT PROGRAM ---------- S. ZEBIAK/IRI
INTERNATIONAL RESEARCH AND APPLICATIONS PROJECT ---------- LISA GODDARD/IRI

3.4 ACTIVITY: CLIMATE RESILIENT INFRASTRUCTURE SERVICES PROGRAM (CRIS) ---------- P. SCHULTZ
PROVIDE CRIS SUPPORT TO PILOT CITIES TO ACCELERATE CLIMATE RISK MANANGMENT ---------- J. POTTER
DESIGN AND IMPLEMENT A SMALL GRANTS PROGRAM ---------- CHRIS EVANS / L. LIGHTLE
FACILITATE GLOBAL CITY-TO-CITY INFORMATION ---------- J. POTTER/ WENDY JAGLOM
PROVIDE INFORMATION AND TECHNICAL RESOURCES TO USAID STAFF ---------- J. POTTER
EVALUATE CRIS ACTIVITIES AND RECOMMEND NEXT STEPS ---------- J. POTTER

J. FURLOW J.COOK
J. COOK
J. FURLOW
N. FERM

ANNEX III. SMALL GRANTS

Name-Number	Title	Type	Amount	Status
Adam French (University of California, Santa Cruz): CCRDCS0001	Integrated and Participatory Risk Management in Peru's Lake Paron Glacier Basin	Climber-Scientist Small Grants (Individual Grant)	$24,818	Active
Ulyana Nadia Horodyskyj (University of Colorado (UC) at Boulder): CCRDCS0002	Quantifying Supraglacial Lake Changes: Contributions to Glacial Ice Volume Loss and Runoff Inputs to Rivers in Nepal and Tibet	Climber-Scientist Small Grants (Individual Grant)	$31,527	Closed out
Shah Raees Khan (University of Manitoba): CCRDCS0003	Understanding Vulnerabilities to Environmental Hazards in Mountain Areas: A Case Study of Climate Change Analysis on Livelihoods in Northern Pakistan	Climber-Scientist Small Grants (Individual Grant)	$24,985	Cancelled
Laura Read (Tufts University): CCRDCS0004	Tres Cuencas Commonwealth	Climber-Scientist Small Grants (Individual Grant)	$25,962	Active
Raúl Augusto Loayza Muro (Universidad Peruana Cayetano Herida):	Natural acid and metal leaching in Andean headwaters: an interdisciplinary approach to evaluate water quality and potential sources for remediation in a climate change context in the Cordillera Blanca (Peru)	Climber-Scientist Small Grants (Individual Grant)	$24,997.60	Active

Name-Number	Title	Type	Amount	Status
CCRDCS0005				
ATREE (India-Nepal): CCRDCS0006	Climate change in Kanchenjunga TCA: Vulnerabilities and adaptive capacities	Climber-Scientist Small Grants (Institutional Grant)	$93,700	Active
The Research Foundation for the State University of New York (SUNY) (Mongolia-Altai): CCRDCS0007	Engaging Climber-Scientists and Indigenous Herders on Grazing and Climate Change Issues in the Altai Mountain Region of Mongolia	Climber-Scientist Small Grants (Institutional Grant)	$99,655	Active
Resources Himalaya Foundation (Nepal): CCRDCS0008	Building Climate Change Resilience Capacity of Mountain People in Nepal	Climber-Scientist Small Grants (Institutional Grant)	$97,823.53	Closed out
Geo-Science Innovations (Nepal): CCRDCS0009	Investigation of the Seti River disaster (May 5, 2012) and assessment of past and future mountain hazards facing Pokhara, Nepal and upstream communities	Climber-Scientist Small Grants (Institutional Grant)	$100,000	Closed out
Institute of Environmental Engineering (Eidgenössische Technische Hochschule ETH), Zurich, Switzerland: CCRDCS0010	Including the Sherpa Factor in Water Resources Projections in the Nepalese Himalaya	Climber-Scientist Small Grants (Institutional Grant)	$99,590	Active

Name-Number	Title	Type	Amount	Status
Stephanie Spray (Harvard University): CCRDCS0011	Snow River Film Project	Climber-Scientist Small Grants (Individual Grant)	$28,610	Active
Private Institute for Climate Change Research (ICC); part of the Guatemalan Sugar Association (Asociación de Azucareros de Guatemala - ASAZGUA) CCRDCR0001	Develop a mechanism for Climate Change Technology Transfer for staple crops within the Guatemalan Pacific slopes.	Costa Rica Small Grants (Institutional Grant)	$127,511.29	The grant is in the closeout process
Tropical Agricultural Research and Higher Education Center (CATIE) CCRDCR0002	Strengthening the resilience of cattle farms to climate variability and climate change in Honduras, Nicaragua and Costa Rica	Costa Rica Small Grants (Institutional Grant)	$171,570.83	The grant is in the closeout process
Pan American School of Agriculture, also known as Zamorano (university) CCRDCR0003	Building capacity for climate-resilient agriculture in the dry corridor of northern central America	Costa Rica Small Grants (Institutional Grant)	$159,362.50	The grant is in the closeout process

Name-Number	Title	Type	Amount	Status
International Environmental Data Rescue Organization (IEDRO) : CCRDSS0001	West Africa Data Rescue and Digitization Facility	Sole Source Small Grants (Institutional Grants)	$106,321.75	Active
AGRHYMET Regional Center: CCRDSS0002	Improving Resilience to Climate Impacts in West Africa Through Improved Availability, Access and Use of Climate Information: Dialogue With User	Sole Source Small Grants (Institutional Grants)	$29,978.00	Active
Western Indian Ocean Marine Science Association (WIOMSA): CCRDSS0003	Training on Vulnerability Assessment, Scenario Planning and analyzing adaptation strategies - 2014 WIO Climate Capacity Building Program	Sole Source Small Grants (Institutional Grants)	$62,036.00	Active
The Mountain Institute (TMI): CCRDSS0004	The Everest Alliance-Cooperatively protecting and restoring the Mt. Everest ecosystem from villages to summit	Sole Source Small Grants (Institutional Grants)	$18,065.65	Active
Trustees of Columbia University in the City of New York: CCRDSS0005	Training on Vulnerability Assessment, Scenario Planning and analyzing adaptation strategies - 2014 WIO Climate Capacity Building Program	Sole Source Small Grants (Institutional Grants)	$49,348.00	Active
The Energy and Resources Institute (TERI): CCRDCRIS0001	Urban Infrastructure Inventory and Rapid Vulnerability Assessment for Resilience Planning in Two Coastal Cities in India	The Climate Resilient Infrastructure Services (CRIS) Program (Institutional Grants)	$136,630.91	Active
Yayasan Kota Kita Surakarta:	Vulnerability Assessment, Infrastructure Inventory, Resilience Planning and Capacity Building for the City	The Climate Resilient Infrastructure Services (CRIS)	$108,874	Active

Name-Number	Title	Type	Amount	Status
CCRDCRIS0002	of Manado, Indonesia	Program (Institutional Grants)		
Yayasan Mercy Corps Indonesia (YMCI): CCRDCRIS0003	CRISPI Climate Resilient Infrastructure Services Program - Indonesia	The Climate Resilient Infrastructure Services (CRIS) Program (Institutional Grants)	$149,990	Grant Agreement is in process
Thailand Environment Institute (TEI): CCRDCRIS0004	Public-Private Partnerships for Climate Resilient Infrastructure: Barriers and Opportunities in the Phuket Tourism Sector	The Climate Resilient Infrastructure Services (CRIS) Program (Institutional Grants)	$122,852	Retracted
Instituto Dominicano de Desarrollo Integral (IDDI): CCRDCRIS0005	Increasing Resilience to Climate Change of Santo Domingo's Services Infrastructure	The Climate Resilient Infrastructure Services (CRIS) Program (Institutional Grants)	$146,673.98	Active
Western Kentucky University: CCRDACD0002	Tropical Andean Climate Change Adaptation and Ecosystem Services Monitoring, Cordillera Blanca, Peru	Academic Grants (Institutional Grants)	$100,000	Active
University of Colorado: CCRDACD0008	An on-line planning tool for climate change resiliency development support	Academic Grants (Institutional Grants)	$99,941	Active
RMIT University, Australia: CCRDACD0005	Decision-support toolkit: towards climate smart seaports in the Pacific Islands	Academic Grants (Institutional Grants)	$99,828	Active
West Virginia University: CCRDACD0004	Climate Forecasting, Adaptation Backcasting: Promoting Resilient Adaptation in Malawi	Academic Grants (Institutional Grants)	$99,826	Active
University of Michigan -	Water Demand Management for Improved Adaptation by Small Farmers in Semi-Arid India	Academic Grants (Institutional Grants)	$99,941	Active

Name-Number	Title	Type	Amount	Status
School of Natural Resources and Environment: CCRDACD0007				
Red Cross / Red Crescent Climate Centre: CCRDACD0003	From Vulnerability Assessments to Adaptive Action: A demand-driven approach to forecast-based decisions for development	Academic Grants (Institutional Grants)	$99,829	Active
University of North Carolina at Chapel Hill: CCRDACD0006	Diagnosing the vulnerability of drinking water infrastructure to synergistic climate related hazards in coastal cities	Academic Grants (Institutional Grants)	$99,995	Active
Pan American School of Agriculture "El Zamorano": CCRDACD0009	Water, Climate and Development Training program	Academic Grants (Institutional Grants)	$90,525	Active
University of Colorado Boulder: CCRDACD0001	Identifying Constraints to and Opportunities for Co-production of Climate Information for Improved Food Security among Agro-pastoral Populations in Tanzania	Academic Grants (Institutional Grants)	$50,625	Active

U.S. Agency for International Development
1300 Pennsylvania Avenue, NW
Washington, DC 20523
Tel: (202) 712-0000
Fax: (202) 216-3524
www.usaid.gov